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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

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OCTOBER, 1943

Vol. 96. No. 10

Wreckage After Explosion at Norfolk, Va., Naval Air Station

A CASE - SHEPPERD - MANN PUBLICATION

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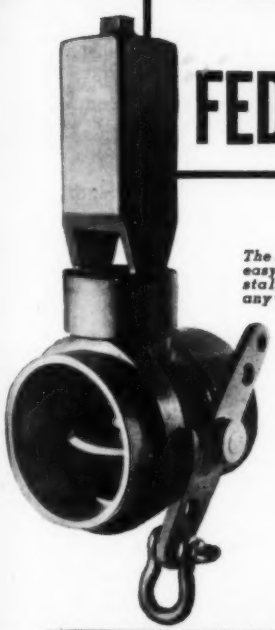

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FIRE ENGINEERING

A Consolidation of Fire and Water Engineering, The Fire Engineer and Fire Protection

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FRED SHEPPERD
Editor

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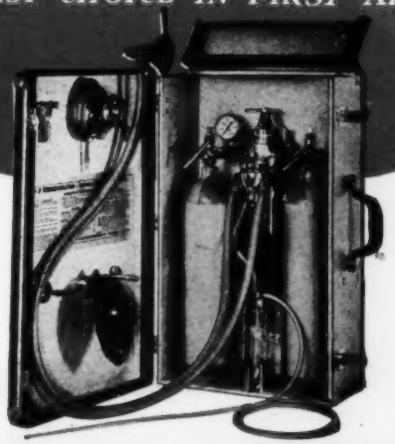

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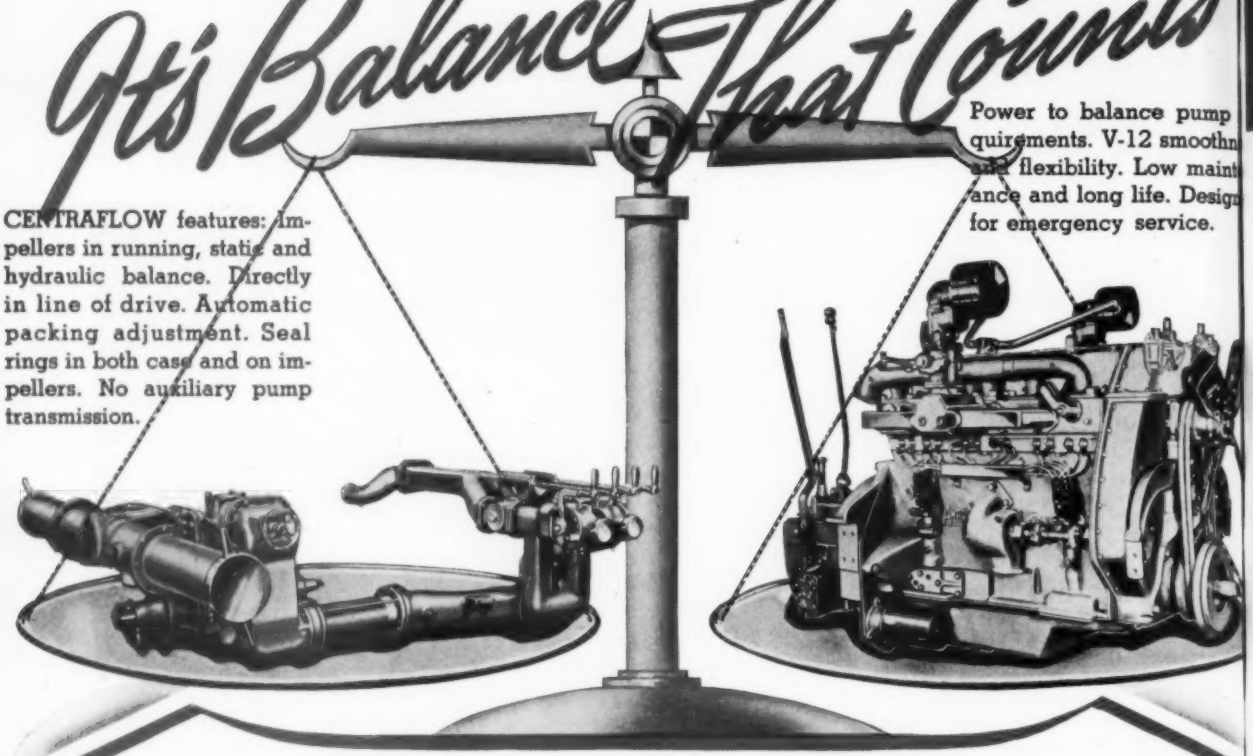

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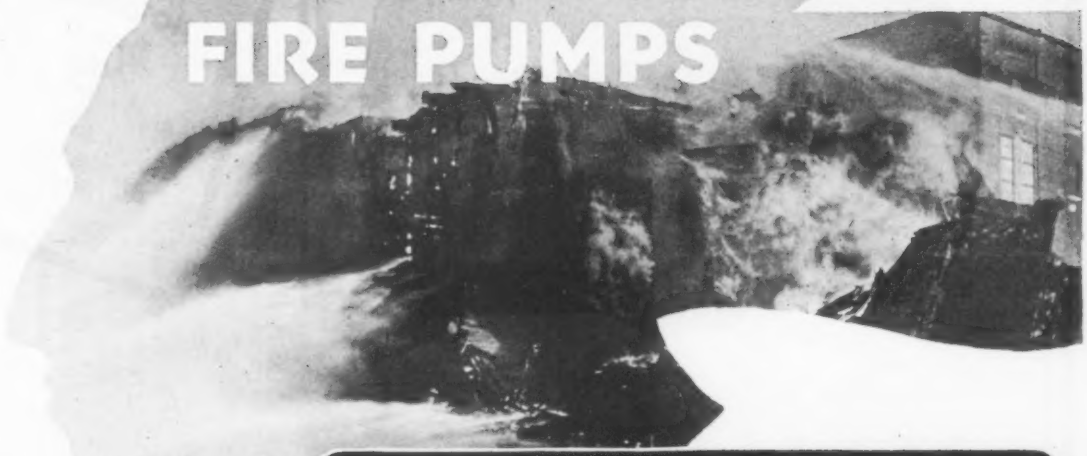

STOP FIRES BEFORE
they get beyond control!

Estimate the saving INDIANS give you in TIME, in MONEY, in EFFORT. If you are now using INDIANS, you are familiar with what they can do. If not, we urge that you get several pumps and put them to the test — find out for yourself just why fire departments from Maine to California say, "Give us INDIANS and we'll do the job."

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E. E. SALGE, Fire Chief.

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Easy pumping throws powerful 30 to 50 ft. pressure stream. Nozzle may be instantly adjusted to a spray. Just the thing for building, roof, rubbish and grass fires.

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4. Will not catch in clothing of firemen, lessening the chance of injury to personnel.
5. No lugs to be battered or broken—causing injury or loss of pressure.
6. Least affected by snow or ice—which can be chipped out easily.
7. Better for packing on trucks—more hose stored in less space.
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Why not write us what you think the Fire Truck of tomorrow should be like.

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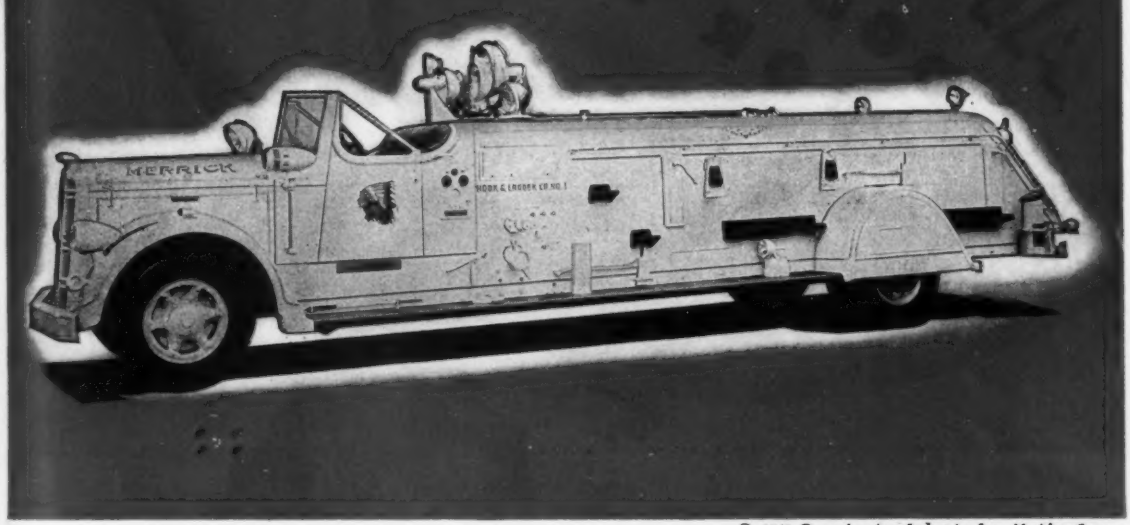

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● This Ward LaFrance Quadruple was recently delivered to the Merrick, Long Island Fire Department — engineered and built to meet the *exact* needs of the community it protects.*

Although Ward LaFrance is producing special motor trucks for our armed forces in record numbers, it is recognized that fire-fighting equipment for municipalities plays an all-important part in the over-all war affort, too. The Ward LaFrance apparatus we are turning out this year is the finest yet.

Write us about your requirements. Our engineering department will gladly make detailed recommendations to fit your particular situation with maximum economy and efficiency.

* This Ward LaFrance 500 g.p.m. Quadruple fully-enclosed ladder truck has an over-all length of 375 in., and a 242 in. wheel base. It carries 240 ft. of assorted ladders. Lighting equipment includes two 250 watt flood lights, one 500 watt flood light, and three 100 watt flood lights. It also has a 200 gal. booster tank. The engine is rated at 150 h.p.

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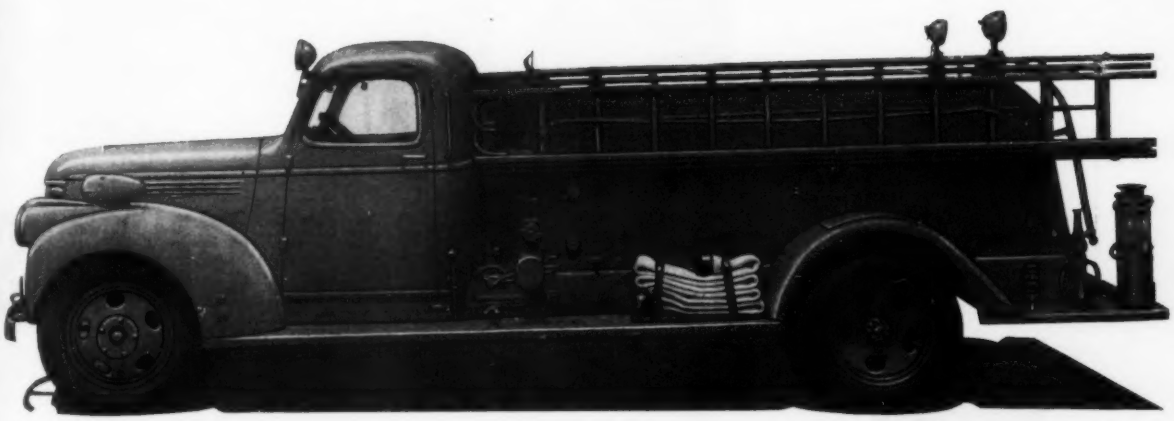

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Mean Action NOW!

THE Signaling System deserves first place on the municipal program of post-war improvements! As a means of providing employment during the reconstruction period it meets every requirement. From the mines to the finished product it absorbs the labor of many industrial organizations. In the installation, maintenance and operation thereof the local labor requirement, both skilled and unskilled, is probably equal to that of any municipal project of equivalent dollar value. And in the protection afforded local industry involving continuity of employment, the conservation of taxable values and the elimination of fire waste the system becomes not only an indispensable element of public safety but a self-liquidating and permanently profitable municipal investment. Expenditures for adequate signaling protection contribute to the economical administration of municipal affairs and evidence in support of this statement is not lacking.

THE GAMEWELL COMPANY

Newton Upper Falls, Massachusetts

FIRE ENGINEERING

OCTOBER, 1943 VOL. 96. NO. 10

With the Editor

A Victory for Jay W. Stevens On May 19, a theatre burned at Salt Lake City, Utah, and three members of the fire department were killed when the balcony collapsed and crushed them.

In August, the City Commission made a shake-up in the fire department, after reviewing a report prepared by a special citizens' committee, and reduced the fire chief to rank of captain. The report stated that the loss of life was "due to negligence of superior officers in active charge of combating the fire."

Apparently sensing the possibility of politics in the action of the Commission, Mayor Ab. Jenkins called in Jay W. Stevens to make an independent investigation of the fire and to determine if the officers of the fire department showed either negligence or incompetence in operating on the blaze.

After a thorough study of the fire and examination of members of the fire department and other witnesses, Chief Stevens reported back to the Commission. In a scathing attack on the action of the Commission in demoting the fire chief without permitting him to appear to defend himself, Chief Stevens went on to point out that the sudden collapse of the balcony could not have been foreseen by fire officers, no matter how capable; that the alarm for the fire had been delayed from an hour and a half to possibly eight hours; that the construction of the building was such as to contribute to its collapse.

Chief Stevens' report concluded that "neither the fire department as a whole, nor any of its officers in particular, are entitled to special criticism for the handling of the fire."

Subsequent to his testimony, the Commission admitted that the demotion of the chief would not be made on the ground of negligence.

Thus Jay was able to reaffirm the important point that civilians are not qualified to assert that a fire was mishandled by a fire department, and further, that the conditions surrounding a fire may lead to fatalities no matter how capable the fire department and its officers.

It would indeed be a pathetic state of affairs if politicians could summarily dismiss or demote qualified fire fighters when, in the minds of the politicians or other civilians, a fire was not fought properly.

Post-War Planning At the annual conference of the International Association of Fire Chiefs in Chicago last month, a resolution was adopted, urging fire departments to cooperate in post-war employment plans by "having plans prepared for improvements, such plans to be complete for immediate initiation, and that such improvements include new fire apparatus, equipment and hose, fire alarm central stations and fire alarm equipment, new fire stations or improvement of old, etc."

That there will be a period of employment let-down lasting from one to two years immediately following the end of the war and before industry is reconverted to peacetime production is generally conceded. Public works will be expected to take up a large part of the slack in employment during this period.

If government funds are made available for stimulating public works improvement,

the cities that have these plans for work completed and ready for instant start will be the first to receive federal aid.

It therefore behooves the fire service to be ready. Plans must be completed in detail and provision made for municipal contribution of its share of financing.

It is not too early to start planning now!

The U. L. as Hosts Those who were privileged to visit the Underwriters' Laboratories, Inc., while attending the I. A. F. C. Conference in Chicago, were deeply impressed with the size and capability of that great institution. The fine hospitality shown the chiefs by the genial President of the Laboratories, Alvah Small, and his staff made a deep impression on the guests.

Many fire chiefs today have a better picture of the Underwriters' Laboratories than previously, and a better understanding of the ability of that organization to perform fire and safety tests of equipment and conduct technical research work.

Safety First; Economy, Second The fire chief in charge of protection at an army air base complains of his inability to secure suitable equipment for fighting of crash fires. What he requested specifically were fog nozzles for use in connection with his present equipment on crash fires.

Following a plane crash, in which the plane was demolished by fire, the chief made requisition for the nozzles. The requisition was approved by the Fire Marshal, who forwarded it to the district Army office for approval. After considerable delay, the district office finally passed the requisition on to Washington. The Army authorities there turned the requisition down.

When it is recalled the loss on one plane alone which crashed was $130,000, and that a supply of fog nozzles could be purchased for less than $500, it is hard to understand the action of the Army officials at Washington.

It seems to us that the recommendation of an experienced fire chief should carry more weight with the military men. After all, he is the man who knows from first hand experience what is needed. He is right on the ground, he is fully acquainted with the shortcomings of his fire equipment, and he knows from actual fire experience what equipment is essential for his particular line of work.

The huge task the Army Air Base fire chief faces in protecting the lives of highly trained flyers and in protecting costly war planes against destruction by fire, it seems to us, would justify the furnishing of any fire fighting equipment that the chief considered as necessary to the efficient performance of his work.

Fred Shepperd

Extinguishing Fires With Carbon Tetrachloride

By WALTER W. STEPHEN
Chief, Fire Dept., Monsanto Chemical Company, Anniston, Alabama

CARBON tetrachloride is a clear and colorless liquid with an odor that reminds one just a little of chloroform. It boils at 77 degrees Cent. and becomes solid at minus 25 degrees Cent. It is slightly more than one and one-half times as heavy as water.

It is employed as a chemical reagent for a number of purposes, as a raw material in chemical manufacture and is used very widely as a reagent to extinguish fires. It volatizes very easily, is a non-conductor of electricity and, as noted above, freezes at very low temperatures. It is sometimes used to extinguish Class A, or "free burning" type fires in ordinary combustible material because of the convenience and portability of the extinguishers holding it. It is effective, due to the blanketing effect of its vaporized fumes, on many Class B or volatile, flammable liquid fires and because it will mix with certain volatile, flammable liquids and form a non-burning combination. It is one of the best-known reagents for extinguishing Class C or electrical fires. It has also been successfully used in fires involving materials that will interact with water and form flammable and explosive acetylene gas.

Its application is generally limited to that of dealing with small fires as it is seldom available in large quantities.

Experiences of the Writer

The thought recently occurred to the writer that the circumstances under which he had seen it applied as an extinguishing reagent are quite interesting, as are the reasons for its selection each time. Some of these are recounted in the following examples, taken from the personal experiences of the writer, for the sake of whatever their interest might be.

Case One: Car in a funeral procession entering a cemetery directly in front of car driven by the writer developed an engine fire from bad wiring. This was put out by use of one quart pump type carbon tetrachloride extinguisher. This is mentioned as a typical example of gasoline motor fire. Blanketing effect of carbon tetrachloride squirted under closed hood of car was main characteristic.

Case Two: Small town fire department called to fire at large two and a half story frame, shingle roof, residence found small blaze on peak of roof at edge above point of gable. Officer in charge carried one quart pump type carbon tetrachloride extinguisher to roof by ladders from one-story kitchen wing, walked along ridge of roof to where fire was situated and put it out with pump extinguisher. In above case this type of extinguisher was employed because of its light weight and portability.

Used On Chimney Fire

Case Three: Industrial plant fire department answering call from company village found fire from chimney spark involving area about ten by three feet on shingle roof of residence. This was put out by use of two five-gallon pump type extinguishers containing carbon tetrachloride. This type of extinguishing reagent was chosen because it caused less damage than water would have done. Amount that ran down on plaster ceiling dried out and left no stain.

Case Four: Small town fire department was called to fire in wall of residence in living room from cause that was never determined. Fire was put out by removing baseboard of wall on floor above fire and squirting carbon tetrachloride down into unstopped wall from one quart pump extinguisher. Vaporized fumes of carbon tetrachloride were effective and wall was not stained. Some of plaster and lath, however, had to be removed for repairs.

Case Five: Wooden elevator casing extending ten feet high above roof of industrial plant building and three by one and a half feet lateral dimensions was involved all over interior by fire from ignited electric motor. Blaze was put out by contents of two five-gallon pump type extinguishers, containing carbon tetrachloride, squirted into top of elevator. Blanketing effect of vaporized fumes in closed space of elevator was very effective.

Case Five: Molten metal explosion in electric furnace plant set fire to three electrode winch electric motors and to two electric motors driving overhead crane. Fires were put out by use of two one-quart pump type carbon tetrachloride extinguishers and a thousand dollars worth of motor windings saved. Portability of extinguishers and fact that carbon tetrachloride is a non-conductor of electricity determined choice of extinguishers in this case.

Case Six: Sparks thrown from molten metal explosion in industrial plant set fire to oil spilled on top of five thousand kilowatt electric transformer. Bushings enclosing forty-four thousand volt transmission line conductors and bushings on top of transformer were in danger of being broken by heat, which would have caused a dangerous short circuit and a possible transformer explosion. Current from high tension transmission line could not be shut off at that time except by calling power substation by phone. Fire was put out by carbon tetrachloride from one-quart pump type extinguisher squirted on top of transformer from ground. All trouble was averted and production was not stopped. Non-conductivity of carbon tetrachloride was determining factor in this case.

For Calcium Carbide Fire

Case Seven: Fire occurred in room of frame structure used as crushing and packing plant for calcium carbide. Blaze that involved considerable area of room was put out by use of three five-gallon pump type extinguishers containing carbon tetrachloride. This liquid did not react with calcium carbide and generate explosive acetylene gas as water would have done. It was therefore employed as the extinguishing reagent in this case.

Case Eight: Wooden barrels containing barium carbide were on fire from heat of some of contents that

had leaked out and become wet from roof leak. Fire was put out by use of five-gallon pump type extinguisher containing carbon tetrachloride, which did not react with barium carbide to produce acetylene gas as water would have done.

Easy to Clean Up Afterwards

Case Nine: One liter glass distillation flask containing benzol mixture being heated by gas burner in a laboratory hood broke and contents spilled and caused fire. Fire was put out by use of two one-quart pump type carbon tetrachloride fire extinguishers. Carbon tetrachloride was here used because of its blanketing effect on burning liquid material on a flat surface and because it was possible to clean the place up very easily afterward.

Case Ten: A distillation unit in a benzol byproduct plant was being dismantled for repair. When a pipe line trap was opened several gallons of benzol began running out into room, where a gas burner in another unit was situated a dozen feet away.

Instantly streams of carbon tetrachloride from four five-gallon pump type extinguishers were squirted on stream of benzol as it ran out and a non-inflammable mixture with no flammable fumes was thus formed. In this way the fire was prevented from starting. Employees in this plant have developed a high degree of technique in preventing or putting out fires in spilled benzol by immediately mixing carbon tetrachloride with it by streams from five-gallon extinguishers. An approximately fifty per cent mixture of carbon tetrachloride with benzol or gasoline will accomplish the above result.

Tests Made on Waste Cotton

About twelve years ago the writer made a series of experiments in methods of extinguishing fire smouldering in the interior of cotton bales, the results of which are here, for the first time published.

Several bales of waste cotton were used for these experiments and many test fires were set and extinguished.

Results, roughly given, were as follows:

It is very difficult to reach and extinguish fire in the interior of a bale of cotton with water. The most effective method to do this with water is to shove a long and very sharp nozzle on a line of one-inch or three-quarter-inch hose far down into the bale and hold it there a while.

A fairly effective method is to lay the bale on its side, punch a hole down into it and pour or force kerosene down into this. Kerosene will go through the cotton with a soaking effect and will make a mixture too rich to support combustion which will extinguish the fire.

The method that these rough experiments seemed to indicate to be the best was to force carbon tetrachloride by a pump down into the bale of cotton involved. This seemed to spread more rapidly than kerosene and to have much better fire extinguishing effect. There was also no damage or staining in the cotton.

Conclusions

In conclusion, we will say that in the above-described cases of fires it is not contended that the methods used were the best or most effective that could have been employed. They were the best available at the time, were chosen for particular reasons that have been mentioned and did, in each case, put out the fire successfully.

There has been no attempt to compare the effect of the extinguishers employed with that of any other types of chemical extinguishers. The main point of the whole discussion has been that one chemical compound has been used as a fire extinguishing reagem in so many different ways and for so many different reasons.

Cold Storage Warehouse Burns

Four firemen were overcome from smoke and damage to the amount of $500,000 was caused by a fire that firemen at New Haven, Conn., fought for 25 hours on September 24. The building, a windowless, fireproof warehouse owned by the Yale Cold Storage Corporation, was not afire but burning within its three lower floor vaults were 30,000 garments including hundreds of fur coats.

Dense steam and thick smoke poured from the doors and ventilators of the 18-year-old structure. Nine companies of the New Haven Fire Department under command of Fire Chief Paul P. Heinz battled the blaze, described as the most baffling in the history of the New Haven Fire Department.

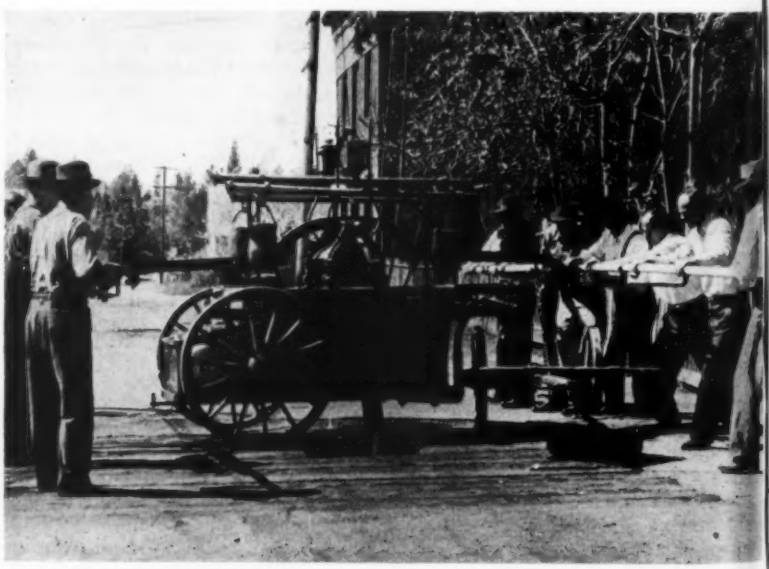
One fireman, Michael McDonough, was rescued by comrades. He and other firemen had fought their way into the first floor vault and removed 100 damaged fur coats when he collapsed and was rushed to a hospital.

Fire Marshal Jeremiah Dunn said in his opinion the fire originated on the first floor and that the heat, if not the flames, was carried through ducts used to circulate cold air from a basement refrigerating plant to the vault rooms where the garments were in storage.

THOMAS F. MAGNER.

Robert McCaffrey Chief at Utica Hospital

In the August issue of this Journal it was stated that Frank A. Nealon had been appointed Fire Chief of the Rhode General Hospital at Utica, N. Y., a government institution. We have been informed that this is not correct as Robert McCaffrey was appointed to the position several weeks ago. George Sweeney was named Assistant Chief of the Fire Department of the institution.



The Oldest Fire Engine in the Country Still in Service in Columbia, Cal.

The Papeete, the oldest active fire engine in the country, was originally built for the King of the Sandwich Islands. It was shipped by clipper around the Horn to San Francisco where the skipper and his men caught the gold fever. As a result it never did reach its destination but lay in port until it was purchased by the town of Columbia.

Railroad Terminal Sheds Levelled by Quick Fire

Pennsylvania Railroad Structures in Philadelphia Razed by Fast-Spreading Blaze

A SPECTACULAR multiple - alarm fire, starting in the Pennsylvania Railroad's "Chinese Wall," destroyed a block-long section of trackage, damaged part of the Broad Street Station in Philadelphia on September 12, and for a time threatened destruction of the sixty-one-year-old structure. The loss was estimated at $250,000.

The blaze, discovered at 9:30 a.m., swept through storage and baggage rooms in the "wall" between 15th and 16th streets and Market Street and Pennsylvania Boulevard, and reduced sixteen tracks running overhead to a mass of twisted steel.

Also destroyed were six passenger cars on the train level which employees were unable to remove to safety as the flames, fed by a stiff wind, roared over the tracks and platforms.

Firemen said the blaze was centered in the baggage office and persisted there after fire in other sections had been extinguished.

Thirty-eight engine companies from all parts of the city, plus volunteer units from Trevose Heights, Narberth, Yeadon and Manoa responded to five alarms sounded in quick succession between 9:44 and 10:08 a.m.

After the last alarm, Fire Chief William Cowden ordered three "special" alarms rung in, calling out additional men and equipment.

As firemen, helped in many cases by service men, fought the fire in the structure, a crew of between 500 and 600 railroad workers went into action, restringing fallen electric wires, repairing platforms and building steps to the top of the "wall."

Nearly 100 passengers who were aboard a New York-bound train, waiting to leave the station, escaped injury when, after the fire leaped suddenly to the train level, railroad employees called them from the rear cars and led them to the front of the train.

Smoke Clouds Rise as Firemen Direct Streams on a Burning Train

The passengers quickly filed into the first cars, which were immediately pulled from the station by a steam locomotive summoned to the scene.

Steam locomotives also removed to safety three commuter trains, three baggage cars and two freight cars which had been in the terminal near the entrance gates. Chief Cowden reported that the flames had spread underneath the main floor of the station in front of the train gates.

A brick wall, two stories high, on Pennsylvania Boulevard west of 15th Street, began to sag and firemen prepared to tear it down as a precautionary measure.

The fire levelled all of the 15-foot high train sheds which jutted out from the concourse of the station, starting a few feet from the ticket gates.

During the fire at least six explosions were reported by firemen and defense workers. These were believed to have been caused by bursting drums of oil, kerosene and other inflammable goods

As Multiple-Alarm Blaze Swept Broad Street Station

Taken from a vantage point, at the height of the spectacular Broad Street Station fire, this photo shows the extent of the blaze and the huge billows of smoke. Note the railroad cars which trainmen were unable to remove to safety.

Fire Sweeps Philadelphia Station

Canopies over passenger platforms collapse in eight-alarm blaze which firemen battled four hours to bring under control at the Pennsylvania Railroad's Broad Street Station in the heart of Philadelphia.

such as air compressor tanks, stored under the track level.

Originated in Boiler Room

The blaze was believed to have originated in a boiler room and power house under the "Chinese Wall." According to one observer there was a terrific explosion and then flames burst out of the power house windows and up through the roof. They then spread rapidly along the railroad roadbed. When the flaming kerosene suddenly spread over the roadbed, it was believed the fire rapidly moved to the oil in the roadbed and was fed by creosote-soaked ties. The fire was aided in its progress by a stiff breeze.

Drug Warehouse Burns

Ten firemen were injured when flames of undetermined origin swept through the five-story brick warehouse of the Gallaher Drug Company in Dayton, Ohio, recently, destroying two-thirds of the building's contents and causing damage estimated in the thousands of dollars. The fire started at 7:56 in the evening and raged out of control for two hours.

The fire apparently started in the laboratory packaging department on the fourth floor.

The watchman, who reported hearing explosions like the beat of a drum, was going to investigate when he noticed a number of people standing across the street from the building, apparently attracted by the smoke. A passerby evidently had turned in the first alarm, for as the watchman looked out a lower story window to see smoke pouring from the fourth floor, he heard the sirens of approaching apparatus.

It was only twelve minutes later that the third alarm sounded and additional equipment was rushed to the scene. For two hours firemen fought the blaze, pouring water into the structure from dozens of individual hose lines and deluge sets. They were hampered by a smothering, acrid smoke, apparently given off by burning chemicals.

Despite masks for smoke protection, six firemen required hospital treatment. Others made their way to windows away from the flames or crawled to the outside fire escapes to get fresh air.

Contents of the warehouse, which supplies forty-three Gallaher drug stores in three states, consisted of the entire line of merchandise carried by the firm. Flames gutted the rear two-thirds of the building, while damage to the forepart was confined to smoke permeating it.

Boathouse Burns

Three hundred fifty privately owned canoes were destroyed in a three-alarm fire which swept the boathouse on Belle Isle, Mich., on September 13.

The fire was discovered by the patrolman in charge of the gate of the boathouse, shortly after he reported for duty at midnight, and spread rapidly toward the section of the building housing city-owned craft.

Firemen from fifteen companies battled the flames more than an hour, and two fire boats stood by prepared to give aid. The flames were believed to have been caused by a careless smoker.

Dean Landis Resigns OCD Post

Dean James M. Landis, Director of Civilian Defense, has resigned his office to take a new assignment as American Director of Economic Operations for the Middle East.

Deputy Director John B. Martin of the OCD, in announcing the resignation of Mr. Landis, stated that under Mr. Landis' guidance more than eleven million volunteers have been mobilized. He said, "During his period of service Mr. Landis has laid down many policies for operation which form the basis for the Civilian Defense structure today. These policies will be continued in full.

"Under these policies Civilian Defense has become a vital factor in the life of the country, providing both a shield and a sword for the communities it serves. The protective forces, which include air raid wardens, auxiliary police, fire guards, auxiliary firemen, control centers and communications, the emergency medical service and all other protective services of the Citizens Defense Corps as well as the Facility Security program, are a powerful shield against attack by air, sabotage or natural disaster."

Rescue of Fireman Overcome by Smoke at Gallaher Warehouse Fire

Photo shows a fireman being carried to safety down the aerial ladder from fourth floor, where he lost consciousness

Practical Training for Auxiliary Firemen

By FRED SHEPPERD
Editor, FIRE ENGINEERING

IN this installment of the series of articles on "Practical Training for Auxiliary Firement" are discussed fire department knots and fire streams.

Q. For what is the chimney hitch used and how it is made?

A. The chimney hitch is the same as the rolling hitch, and its specific use is to secure a tight line. When this knot

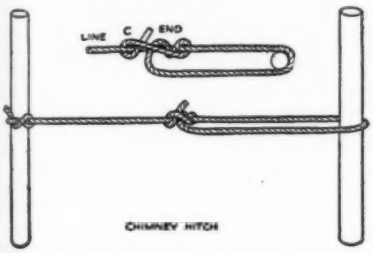


Fig. 20

is employed a line may be passed around any stationary object or, through a ring, hook or other anchorage, drawn tight and the end fastened around the line as shown in the illustration. The details of the knot are shown in fig. 20.

Q. For what is a Becket bend used and what are its advantages?

A. The Becket bend (weaver's hitch) is used for securing two lines of rope together, and is particularly effective on ropes of different sizes. This knot does not jam readily, and may be easily undone after being submitted to tension. Sometimes this knot is used in attaching a rope to the chain of a ball and chain.

This knot is shown in fig. 21.

When two lines are to be fastened together, and the Becket bend is used, this process is called bedding two lines together.

Q. How is the square knot (reef knot) made, and what are its characteristics?

A. Fig. 22 shows a reef knot made in a single piece of rope. This, however, is not its most common application. Referring to the sketch, if the rope should be severed at the bottom of the large loop, then the application of the knot for joining two pieces of rope is the result. This knot is a very secure one, and tightens under strain. Care must be taken, however, to make sure that the two terminals on one side of the knot are the tension lines. For example, the two ends shown at the top of the sketch must be ends to which the load is applied, or else the two bottom ends (when the loop is cut as described above). The knot is insecure if a lead on one side and a lead on the other side of the knot are used as tension lines.

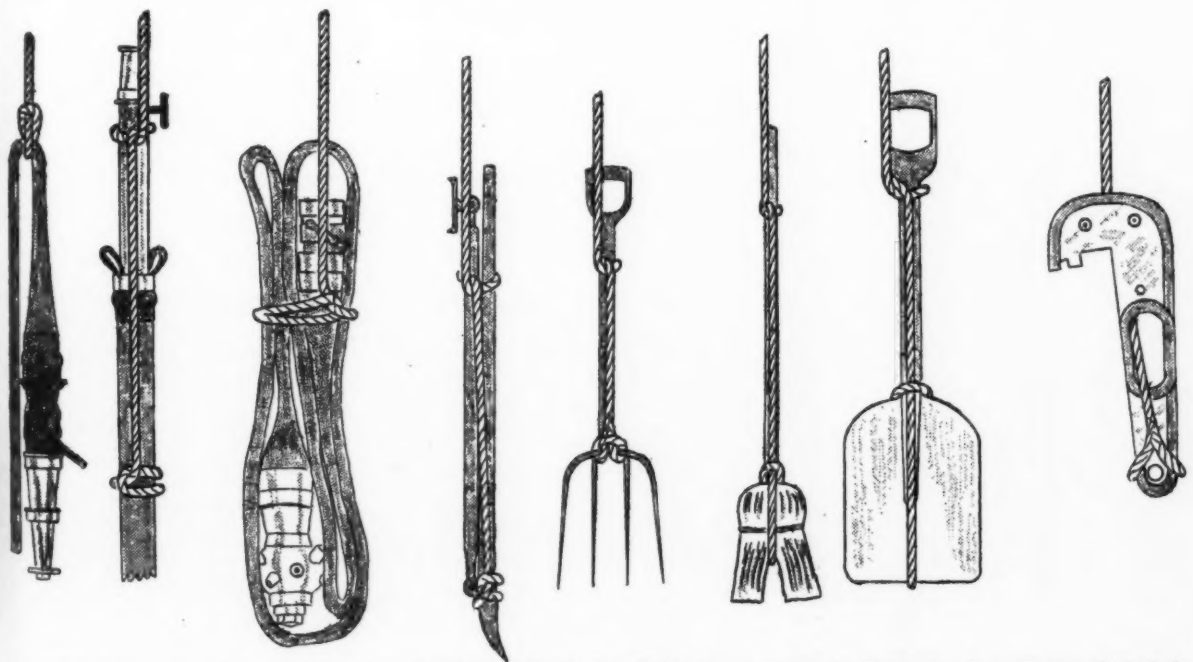
Fig. 21. Becket Bend (or Weaver's Hitch)

Fig. 22

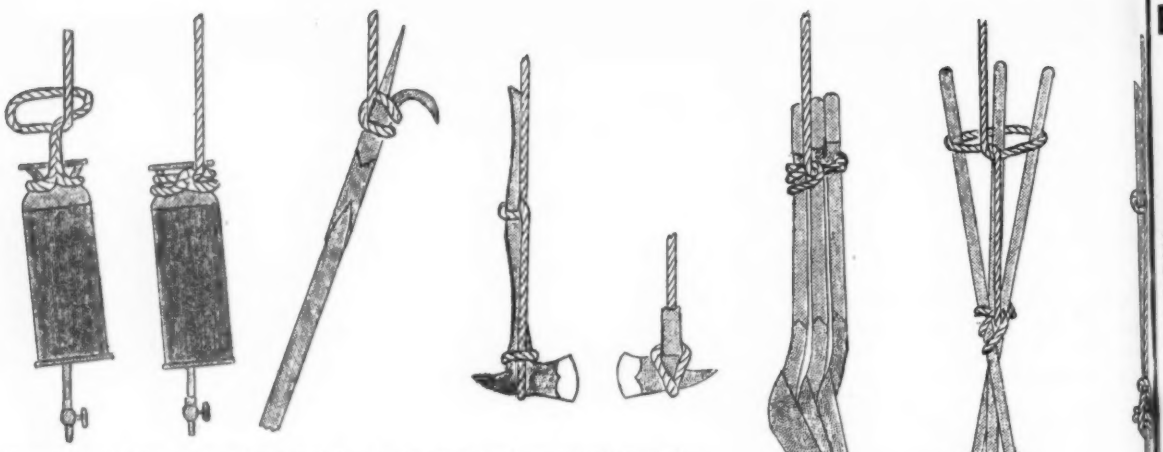
Fig. 23

Q. How does the granny knot differ from the square knot?

A. The granny knot, which is frequentmistaken for the reef knot, is dangerous for it frequently slips when under ten-

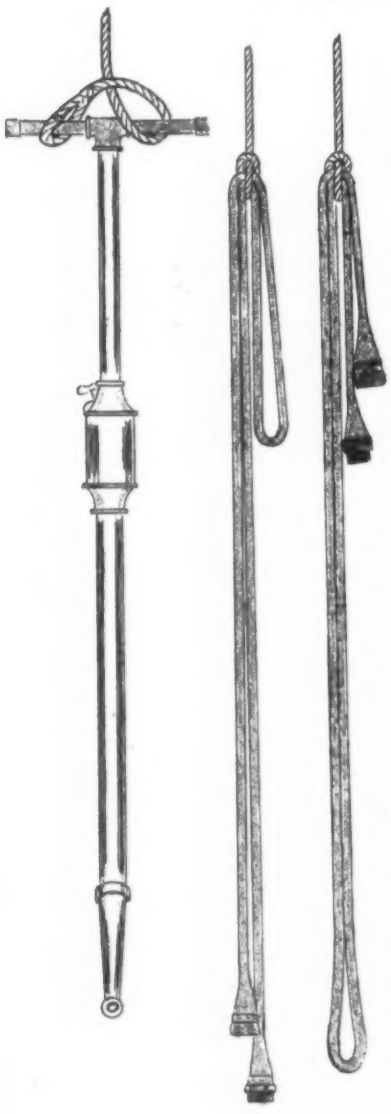


Hoisting Fire Fighting Appliances with Roof Rope Provided with Eye; Left to Right: Hose with Nozzle; Distributor; Door Opener; Pitch Fork; Broom, Shovel and Hose Roller.



Illustrating the Use of Roof Rope with Eye in Hoisting Appliances; Left to Right: Extinguisher (Loop and Half Hitch); Pike Pole; Axe; Shovels; Brooms and Crow Bar

Lower Left: Use of Roof Rope with Eye in Hoisting Cellar Pipe (Left) and Single Length of Hose (Two Methods)



sion. Besides it may jam. The granny knot is shown in fig. 23. In the reef knot both ends of the rope go through a knot loop in the same direction. In the granny knot the ends go through the knot loop in different directions.

Roof Rope with Eye

Some fire departments used roof rope with an eye about six inches long spliced in each end of the rope. The use of roof rope so equipped simplifies operations in hoisting many appliances. The illustrations herewith showing the application of the roof rope with eye are reproduced from a bulletin on the "Uses of the Roof Rope" published by the Portland Fire Department Drill School.

Fire Streams

Q. What is the definition of a good fire stream?

A. A good fire stream is one which will carry the desired distance, retaining to a reasonable extent its solidity, and without excessive spray. A good fire stream should be stiff enough to attain in fair condition the height or distance desired, even though a fresh breeze is blowing.

Q. Upon what does the production of a good fire stream depend?

A. A good fire stream depends upon the use of the proper sized nozzle and sufficient pressure at the nozzle.

Q. What size nozzles are usually used by fire departments for inside fires and for outside fires?

A. For inside fires nozzles of 1¼-inch diameter or less are commonly employed; for outside fires, nozzles of from 1⅛-inch upward are commonly used.

Q. What nozzle pressures on different size nozzles are usually considered satisfactory for ordinary fire department work?

A. Nozzle pressures of 40 to 60 pounds with from 1⅛ to 1¼-inch nozzles will give streams which may be classed as good and which can be handled without special appliances. With 1½-inch and larger nozzles, 60 to 90 pounds pressure is desirable for good fire fighting.

Of course, the nature of the fire, size of building, the contents, the floor on which the fire is burning and other factors will determine the necessary pressure in each specific case.

Q. How is the effective reach, or range, of a fire stream commonly determined?

A. The effective range for a given nozzle pressure may be determined by the rule of allowing one foot effective reach for each pound pressure at the nozzle. While this rule does not hold accurately through the entire scale of nozzle sizes and pressures, nevertheless it is sufficiently close for all practical purposes. It should be remembered that a stiff breeze cuts down the effective reach of a stream materially so that the error made by using the above rule is relatively not serious. The rule is commonly used for all nozzle sizes and for all pressures at nozzles.

Q. For what purposes are different sized streams used?

A. The smaller streams (1⅛-inch and less in diameter) are usually used for inside work, as previously indicated. They are streams which can be maneuvered, and used without special appliances to hold them, and can be shifted readily while operating on inside fires. The 1⅛-inch is about as large a nozzle as is commonly employed for inside work. Smaller nozzles such as ½-inch are effective in partition fires or other small fires where it would be difficult to reach them with the larger, less flexible streams.

Large streams are used for operating on fires from outside the structure. Such streams may range from 1¼-inch on up. The 1¼-inch stream can be handled fairly well without special appliances, but streams of 1½-inch and greater in diameter necessitate the use of monitors, deck guns or other appliances for controlling and directing the stream.

The larger streams have greater range than the small ones, and greater extinguishing power. When a fire has

(Continued on page 658)

EXPLOSION OF "GAS" TANK CAR KILLS THREE AND INJURES EIGHT

Cause of Accident Believed to be Ignition of Fumes by Spark Struck by Shoe Nails or Other Metallic Object

A FLASH fire occurred on July 11, 1943, in a Union Pacific tank car in Council Bluffs, Ia., causing the death of three persons. Below is the report submitted by Chief Waldo Merrill of the Council Bluffs Fire Department to the City Council, which analyzes the accident and offers an explanation of its probable cause.

REPORT OF INVESTIGATION OF "FLASH FIRE" IN U. P. TANK CAR #4317, CAUSING DEATH OF THREE MEN AND INJURING EIGHT OTHER MEN ON SUNDAY, JULY 11, 1943, IN THE UNION PACIFIC YARD AT COUNCIL BLUFFS, IA.

TEMPERATURES 12:01 P.M., 88 DEGREES; 5 P.M., 91 DEGREES; 6 P.M., 90 DEGREES

HUMIDITY: 12:01 P.M., 37 PER CENT; 6 P.M., 39 PER CENT

WIND: NIL

EMERGENCY UNIT RECEIVED CALL AT 5:06 P.M.; OIL TANK ON FIRE AT UNION PACIFIC ROUND HOUSE

FIRE ALARM RECEIVED AT 5:20 P.M.; OIL TANK ON FIRE AT UNION PACIFIC ROUND HOUSE

Captain Park called me at my home, relative to the oil tank fire, stating he had sent Companies 1 and 5. I instructed him to send Company 4, as I assumed a pumper would be necessary for this type of fire. I then proceeded to the fire.

Man Overcome in Tank

As I arrived at the Union Pacific Round House, I observed the Emergency Unit preparing to leave, police officer Montgomery driving. I then noticed a stretcher being carried from the north to the police ambulance, a victim badly burned. I gave Dewey Durick, my driver, a bottle of Foille from the emergency kit in the Chief's car, to apply on the victim enroute to the hospital. After the police ambulance left, I first began to obtain a little information as to what had happened, and heard that Captain Weimar and Driver John Peterson were burned, along with eight employees of the Union Pacific Railroad. (One employee was removed to the hospital at 8 p.m. with an injured back.) I first received first hand information about 7 p.m., when an unknown employee of the railroad told me what had taken place. "It all started over a wrench that was dropped into the tank car by an employee and he tried to remove the wrench but failed."

Captain Weimar informed me upon the arrival of the emergency unit they were informed that a man was unconscious in the bottom of the gasoline tank car. While John Peterson was placing the oxygen mask to his person, bystanders removed a ladder from the emergency unit and placed it against the side of the tank car. Captain Weimar stated that he opened the valve on the mask, checked the pressure reading on which the needle was about in the center (80 to 90) of the gauge.

Peterson then proceeded to enter the tank, having some difficulty in going through the first opening. This opening in the dome is fifteen inches in diameter. The mask worn by Peterson is 13½ inches wide. The second opening through a baffle plate is approximately twenty-five inches in diameter. Peterson found the victim lying on his back in about four to six inches of gasoline, head and feet to the north and south. The tank car was on the east and west track. He placed the rope around the victim's body. The body did not line up with the opening in the baffle plate. Peterson then ordered the victim lowered. He climbed the rope to the baffle plate, removed his mask, ordered the victim raised and steered the body through the opening in the baffle plate. He was assisting the body into the dome, the head of the victim to the outside, and the men had paused to get another hold to complete their mission, when a flash occurred, blowing the victim clear of the tank car and the men off the top of the car, their clothing ignited. Peterson was still inside of the dome. When he attempted to escape, he became wedged into the dome by the oxygen mask, which was strapped to his body. The strap had to be cut loose before he could be released.

I am also informed after Peterson was released from the tank car, burned from his hips to his ankles as well as both arms and face, that he and Captain Weimar, who was blown from the top of the tank car, burned on both arms, hands and face and who suffered a fracture of the right forearm, gave assistance to the other burned victim and advice to bystanders in assisting. They also tried to render assistance enroute to the hospital to the patients in the emergency unit. Peterson being critically burned, passed away on July 20, 1943.

Answering a statement published in a local paper to the effect that when the oxygen in the mask came in contact with the gasoline fumes "the gasoline in the car exploded," Chief Merrill presented the following data:

1. Oxygen is not combustible, but is a supporter of combustion.

2. In addition to flammable gases, oxygen and other gases which are not themselves combustible are, or may be supporters of combustion.

3. Oxygen breathing apparatus: This type of gas protector is absolutely necessary in tank car work, where the wearer is apt to encounter atmosphere deficient in oxygen.

4. An alternative method is, after pumping out contents to fill the tank with an inert gas and if men are to enter the tank have them wear oxygen helmets or air hose breathing apparatus.

5. Canister type mask: Type N, as approved by the U. S. Bureau of Mines, gives protection against all the poisonous gases which firemen are likely to encounter, including carbon monoxide. This mask is sometimes called an "all-service" mask.

All canister type masks have two limitations which must be well understood if they are to be used with safety. They are utterly useless in atmospheres deficient in oxygen. This condition is found in tanks which have held readily volatile materials, such as gasoline, etc. For those infrequent occurrences where a gas mask is not suitable, an oxygen breathing apparatus must be used.

In this case where there was a life at stake, it would not have been the logical move to make, to fill the tank with an inert gas, steam the tank, etc., or to send a man into this tank with a canister type mask as there was an atmosphere deficient in oxygen. Therefore, the oxygen mask would be the proper protection for the person entering the tank.

Static spark: The theory is that when the humidity is high, there will be a slight film of moisture on all surfaces, which provides sufficient electrical conductivity to drain off static charges as they are formed. Such a film of moisture may be so slight as to be imperceptible to the touch and still be sufficient to prevent static accumulations. Humidity of fifty to sixty per cent will usually be sufficient. Humidity at the time of the flash fire was thirty-seven per cent. Temperature was ninety-one degrees.

The relative low humidity could be assumed as ideal for static electricity, for which conditions are to the contrary of those in the preceding paragraph.

Spark Held Probable Cause

Static spark might be created by a moving rope, or the friction of a man's clothing against some part of the tank. I would regard these causes as improbable because motion would be slow and any static spark would be dissipated before it had built up sufficiently to cause a spark. Another possibility would be the metal hook on the end of the rope swinging against some part of the tank. The hook striking hard might cause a spark, but slow rubbing would not cause a spark.

Flammable mixture: In the case of most flammable liquids and numerous flammable gases and solids, there is a minimum concentration of vapor in air or oxygen below which propagation of flame does not occur on contact with a source of ignition. There is also a maximum proportion of vapor of gas in air above which the propagation of flame does not occur. These limits of mixtures of vapor or gas with air, which if ignited will just propagate flame, are known as the "lower and higher" explosive or flammable limits, and are usually expressed in terms of percentage by volume of gas or vapor in air. (This may be explained by making a comparison by adjusting an automobile carburetor.)

In popular terms, a mixture below the lower explosive limits is too "lean" to explode and a mixture above the upper explosive limits too "rich" to explode. The explosive range varies from 1.3 per cent to 6 per cent by volume.

Gasoline vapors being three to four times heavier than air, I must assume that vapors in the bottom of the tank would be too "rich" to explode. I must assume that the mixture in the upper part of the tank was too "lean" to ex-

plode, as there was bound to be oxygen pulled into the tank during the unloading process of the gasoline.

The fact remains that the flash did not occur until the victim's body reached the upper part of the tank or into the dome. Prior to this, Peterson had some difficulty getting through the dome opening to get to the bottom of the tank. He placed the rope around the victim and returned to the baffle plate, removing his mask. With all of these maneuvers, it appears rather evident that the victim's clothes being somewhat soaked with gasoline and coming into contact with the heat would cause an excessive amount of vapors to rise.

The temperature was extremely hot when the victim was raised into the dome space. It could be assumed that the heating of the victim's clothes was rapid and that a sufficient quantity of the explosive mixture was released from the dome opening. Ignition could have occurred as a stream of gasoline vapors might not be noticed by men standing on top of the tank. If this theory is correct, the ignition might have been caused by sparks struck by steel nails in the shoes of any one of the men standing on the tank car or by a belt buckle or metal buttons that might have been given a hard jolt on the tank car.

There may have been matches in any one of the men's pockets which could have been ignited.

By using all precautions, even to the point of removing all clothing worn by an individual before entering a tank, there is still the possibility of a static spark jumping from the hair to the metal in the tank.

In my opinion, the flash fire was caused by a spark from an unknown source and not by static electricity.

If this condition should reoccur, I can see no other method than what was done, other than to render a silent prayer and hope that there will be no explosion until the rescue is completed.

Respectfully submitted,
WALDO MERRILL,
Chief of Fire Department.

FIRE LOSSES MOUNT AS IN 1918 N. B. F. U. PRESIDENT STATES

Sees Postwar Trend Upward Like Early 1920's

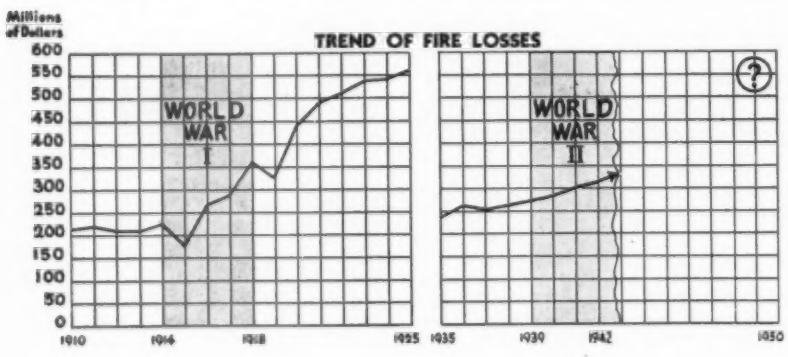
"WILL fire destruction skyrocket in the postwar period as it did during, and after, the last war?" asked J. M. Thomas, President of the National Board of Fire Underwriters, in the current issue of "Safeguarding America Against Fire." "Already sign-posts are indicating that such a trend is beginning."

Drawing attention to the accompanying graph he said, "Note how fire losses mounted up steeply in the 1920's until they reached an all-time high. As indicated on the incompleted graph for the years 1935 to 1950, losses have been going up during the present war and recent signs point to higher levels. Monthly fire losses recorded a jump in December, 1942, and again in March, 1943. This tendency may resolve itself into a steady increase of losses. For the first seven months of this year, fire losses have increased $24,000,000 over the same period last year."

Why Losses Are Going Up

Explaining this trend Mr. Thomas said, "According to experience during wartime, the number and severity of industrial fires are likely to increase. Why? One reason is found in the expanded operation of munition plants. Then, too, even veteran workers under strain of long hours may tire and be less careful. Most of all, the tens of thousands of new workers taken into industry may not know the dangers incident to their jobs. Also valuations of American property exposed to fire are again advancing steadily. This is the time to make an all-out effort to hold fire losses to the minimum."

"Although losses have been advancing, fire prevention activities have been yielding results of importance to the war effort," declared Mr. Thomas. "In the drive to speed up all work, fires are more apt to occur and there were several fires in war plants during the past year; some of them crippling. It is likely that there would have been many more such catastrophes without the definite, organized fire prevention program that is in progress. Safeguards against fire have been extended to several thousand war plants which were surveyed by engineers and given recommendations, then visited again for a checkup. Moreover, it was necessary to build many new factories and new communities. Building Code requirements were considered in the construction of these new buildings.



Firemen of Two Rhode Island Towns Hold Drill

Five North Providence fire companies and two Johnston fire units held a recent fire demonstration arranged by North Providence fire officials to ascertain the fire fighting strength that is available in case of a serious conflagration in the town.

The drill was staged at the plant of the Collins and Aikman Company, Inc., at Allendale, and was directed by Acting Chief John Murphy of the Centredale Fire Company. More than ten pieces of apparatus were used at the scene of the imaginary fire, for which three alarms were sounded from the Centredale alarm center.

The first alarm was sent out at 9:15 o'clock for the reported "blaze" which brought the Centredale, Fruit Hill and Lymansville companies. Two minutes later another alarm was sounded and the Geneva and Marieville companies were dispatched to the scene. A third alarm sounded soon afterwards and brought the two out-of-town companies, Johnston Hose 2 of Graniteville, and Johnston Hose 3 of Manton.

Under the direction of Acting Chief Murphy, the companies were ordered to the various spots to draw water from the Woonasquatucket River in the rear of the plant. Ten effective lines of various lengths were used, none of which were taken from the river and one line from a hydrant in front of the plant.

The Lymansville company laid 900 feet, the Centredale company, 350 feet; the Johnston companies approximately 1,800 feet, and the Geneva company, 800 feet. The Fruit Hill and Marieville units were held at the scene in reserve and in readiness to answer an alarm in any other part of the town. Four companies outside the town, the Greenville and Georgiaville companies from Smithfield, the Scituate unit and the Harmony company from Gloucester were also notified to be in readiness in case of any emergency call for help.

More than forty firemen representing the seven companies took part in the drill.

Assisting Chief Murphy were Chief Marden Graham, Lymansville; Chief Charles McCarron, Fruit Hill; Deputy Chief Domenic Cesano, Marieville; Chief Obidiah Christiensen, Geneva; Chief Paul Jache, Johnston Hose 3, and Chief Harry Nelson, Johnston Hose 2.

Chief Charles Leavitt Dies

Chief Charles F. Leavitt, for more than forty-five years a member of the Nahant, Mass., Fire Department, died on September 8 at his home. He had been Chief for fifteen years.

Chief Leavitt was a member of the Massachusetts Fire Chiefs' Club, and the International Association of Fire Chiefs.

HEAVY DEATH TOLL CAUSED BY FIRE IN OLD HOTEL BUILDING

Absence of Exit Light Believed to Have Contributed to Large Loss of Life

FIFTY-ONE men were burned or jumped to death early on September 7 in the most disastrous hotel fire Houston Texas, ever had.

The fire broke out on the second floor of the Gulf Hotel at 12:45 a.m. Within a few minutes the pavement below was littered with bodies as the trapped guests jumped from the second and third floors of the hotel.

The hotel, occupied principally by old men, many of them on relief, was an old three-story structure. The building burned for three hours before rescue squads could enter and begin carrying out the dead and injured.

The Three-Story Gulf Hotel Is Shown Following the Blaze Which Gutted the Building on September 7

Fire Started on Second Floor

The manager of the hotel said that a fire at first started on the second floor near his office. He and others doused water on a smouldering mattress. About an hour later the second floor burst into flames.

Choking and blinded by the flame and smoke, the guests ran for the stairs. Cut off by the flames, many tried the fire escape while others, terrified, jumped from the windows.

Sailors and soldiers on leave in Houston came to the aid of the firemen and stretched hose lines and aided in rescue work.

Many of the guests registered at the hotel were defense workers who could not find lodgings and had to take what they could get.

A fire department inspection two weeks before the fire revealed that no red "Exit" light marked the fire escape on the second floor of the hotel. The hotel management was given two weeks to correct this abuse. At the time of the fire this had not been done. Fire department inspectors had planned to re-examine the premises the day after the fire to see whether the light had been installed. The absence of this light is believed to have contributed materially to the heavy death toll.

An Interior View of Ruins of the Gulf Hotel in Houston, Tex., Where Fifty-one Lost Their Lives as Flames Swept Through the Building

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Western Pennsylvania Firemen's Training Institute Held

The annual Firemen's Training Institute sponsored by the Southwestern Pennsylvania Chiefs' Association was held at State Teachers' College, California, Pa., September 6 through 10. One hundred seventy-eight were enrolled in the Institute, representing forty-eight paid, volunteer and industrial fire organizations.

Representatives of the Department of Public Instruction, Art Espey and Bruce Millenger, were on hand. Speakers ers on the program included Chief Davis of the Bureau of Fire, Pittsburgh, Pa., and Special Agent E. L. Doyle of the Federal Bureau of Investigation. Chief Davis spoke on firemen training and Special Agent Boyle on the connection of firemen in the battle against sabotage.

School officials who helped make the Institute a success include the following: G. W. Hugney, General Chairman, California; Dr. Robert H. Steele, Adviser, State Teachers College, California; Chief Henry Neill, Secretary, Vestaburg; Captain Joseph Fay, Director, Bureau of Fire, Pittsburgh. Supervisors included Chief Richard Pyle, Somerset; Joseph Stiener, Greensburg; Captain Alvin Foster, Bureau of Fire, Pittsburgh; Richard Johnson, Mine Safety Appliances Co., Pittsburgh, and Chief W. H. Raffle, Uniontown. Instructors included J. A. Silbaugh, Uniontown; Wallace Bierer, Uniontown; Frank Schlarp, Bellevue; Ray Fisher, Stanley Sholts, William Knipp, Thomas Sloan and Phillip Lauderbaugh of the Bureau of Fire, Pittsburgh; H. G. Hercules, Somerset; George Mauler, Uniontown; L. H. Goodman, Forest Hills, and A. H. Fasolas, Turtle Creek.

CHIEF CLEARED OF CHARGE OF INCOMPETENT HANDLING OF FIRE

Jay W. Stevens Conducts Investigation Which Exonerates Chief of Salt Lake City Department

FIRE, on May 19, destroyed the Victory Theatre at Salt Lake City, Utah. Shortly after fire fighting forces started operations, the balcony in the theatre collapsed, killing three members of the department.

A special citizens' committee conducted an investigation of the fire, and submitted a report to the City Commission. The Commission, after reviewing the report, reduced the fire chief to the rank of captain. The report stated that the three firemen who met death in the collapse of the balcony at the theatre lost their lives "due to negligence of superior officers in active charge of combating the fire."

Mayor Ab. Jenkins did not approve the action of the Commission, and called in Jay W. Stevens to make an independent investigation.

After his investigation, Chief Stevens appeared before the Commission and exonerated the fire department of negligence and incompetence.

This report, which was the result of examining some eighty-five witnesses and conferring with other investigators, in addition to making a thorough study on the ground with all important witnesses, cointained the following conclusions:

"Except for the fact that loss of life occurred, this fire was not unusual and might have occurred in any city. Similar fires are occurring nearly every day in various sections of the country. However, several factors stand out as contributing to the loss of life, as well as the total loss of the building, namely:

"(a) The alarm was delayed from an hour and half to possibly eight hours.

"(b) When the fire department arrived, its attention was directed by workmen already on the ground to the fire in the floor, whereas the serious portion of the fire was a blind fire in the space under the balcony floor.

"(c) Most of the early arriving officers were serving in an 'acting' capacity, and all companies were undermanned.

"(d) The construction of the building was such as to contribute to its collapse. The enormous weight concentrated in the projection room, having for its support only the balcony floor, brought the rear portion down very much sooner than would normally be expected.

Prompt Response to Alarm

"The fire department arrived promptly after the alarm was given; the first streams were properly placed, and considering the size and location of the building, the acting battalion chief made a fairly rapid size-up and ordered a general alarm within nine minutes.

"The inadequate support for the extremely heavy projection room booth was weakened, causing the collapse of the rear portion of the balcony, which resulted in the death of the three firemen, just thirty minutes after the first fire officer reached the fire. After the collapse attention was centered on the rescue, permitting the fire to gain great headway.

"Without minute knowledge of the construction of the building, especially the projection booth with its heavy concrete floor, it was reasonable to assume that the balcony would give protection to the firemen, even though the roof should collapse. The testimony bears proof that no officer or fireman at the fire had knowledge of the location, and certainly not the extent of the blind fire in the concealed balcony space, until a very few minutes before the collapse. No one hard warning or suspicion of a collapse

Department Undermanned

"While the operation of the fire department at this fire was not perfect, it was as good as could be expected, especially considering present-day conditions which exist in almost every fire department in the country, undermanned as they are, and with a large percentage of new, insufficiently trained and inexperienced personnel. At the time when the training officer was most needed, he was loaned full time to another agency. The pay of firemen, as contrasted to industry, also has its effect upon the present-day fire department, as it has on all other civilian organizations.

"As after every fire when the smoke clears and excitement subsides, a close study discloses facts which if known beforehand would have called for a different strategy, but after examining some eighty-five witnesses and conferring with other investigators, and having made a thorough study of the ruins on the ground with all the important witnesses, it seems certain that neither the fire department as a whole, nor any of its officers in particular, are entitled to special criticism for the handling of this fire."

Chief Stevens castigated the Commission for their action in demoting the fire chief. He said: "I think the action taken by this body in reducing the chief without charges and without a chance to come before the body and refuting the report was the most cowardly thing I have heard of . . . absolutely unfair . . . and certainly not American."

Following the report of Chief Stevens, the Commission members, apparently reversing themselves, asserted that their action was not based on the belief that there was negligence on the part of high officers at the Victory Theatre fire.

Photo by A. Hardy

This Furniture Warehouse Fire Was a "Burner"

A five alarm fire swept the Stanley Furniture Company warehouse in Baltimore, Md., recently, resulting in a loss of over $300,000. Before it was brought under control, 175 firemen, manning more than 25 pieces of apparatus, were called into action. It was the largest fire Baltimore has experienced downtown this year. It burned furiously for more than two hours despite the large amount of water thrown into the blazing structure. Quite a few auxiliary firemen saw service at this fire.

Fire Fighting Railway Cars Placed in Service

The first of a fleet of ten fire fighting cars, designed to insure safety of war shipments, particularly oil, has been placed in service by the New York Central Railroad.

The cars will be placed at strategic locations along the right of way with a view to protecting the movement of oil in tank cars from production centers to the East and New England. The new fire fighting equipment consists of a locomotive tank tender placed at one end of a flat car, over which is constructed a housing with two side doors and a door at the end opposite the tank.

The tank holds 8,000 gallons of water which is ejected through hose by a gasoline pump.

SERIES OF RURAL FIRES KEEP JERSEY FIREMEN BUSY

Cover a Large Territory and Threaten Numerous Towns; Believed Incendiary

By Frank L. Wilgus

FIREMEN from three Northern New Jersey counties were given several hectic days recently, when a series of fires, many of which were labeled the work of firebugs by fire officials, kept firemen on the run constantly, and resulted in damage in excess of $500,000.

Most serious of the blazes were those which destroyed thirty-one summer homes and cottages in Point Pleasant, Ocean county resort, and that which destroyed radio station WCAP, Asbury Park, when a brush fire raged out of control and completely gutted the interior of the radio station's sending station.

The Point Pleasant fire was labeled as incendiary by Police Chief Vernon D. Shibla, Wall township, and Mayor Harry Roe, Point Pleasant.

The Point Pleasant fire climaxed a hectic day which saw fire fighters from three counties rushing up and down a six mile stretch as emergency alarms were sent out from various sections as the forest fires raged out of control.

While firemen of more than thirty-seven communities were fighting a blaze in Wall township, west of Asbury Park, an emergency call was sent out over the Monmouth county police radio station, WAKC, urging all available men and apparatus to speed to the Point Pleasant area, where a blaze was racing out of the woodland to the south of the town and threatening the town itself.

As firemen and soldiers from several shore forts were rushing to the scene, the speeding flames had already leveled thirty-one homes and cottages in the section with the resultant $300,000 loss.

Original reports held that the fire in Point Pleasant had come from a small blaze in the boro dump were scoffed at by Mayor Roe, who remarked,

"Of course that's a possibility, but I believe the fire was set. The fire chief, Harry Irons, told me that the fire was going in several places at once. It was going on both sides of the highway.

"I think," the mayor continued, "that a time was picked for the fire when several of our engines and certainly many other departments were fighting fires elsewhere. I know this, however, that if it hadn't been for the fine help given us, the whole town would have been wiped out."

The other fires referred to by Mayor Roe were those at Wall township, where fighters were working desperately to save the signal corps sub-post of Camp Evans and the more than 1,500 trucks fully equipped which were parked there, and at Allenwood, where another blaze was spreading through dry underbrush and threatening homes there.

These fires had started about a half hour before the one at Point Pleasant and therefore were taking the efforts of many departments normally second and third alarm units for the Point Pleasant department.

Police Chief Shibla, of Wall township, site of the first alarm, ordered a second general alarm sent over the police radio when the trucks and camp were threatened. Many fire companies were then shunted between the Wall township fire and that at Point Pleasant as the needs developed.

Apparatus from Point Pleasant and Point Pleasant beach were about to leave for the Allenwood and Wall township fires when the larger blaze was found to be threatening their own towns and properties.

In all, three general alarms were sent out over the police radio system, with more than thirty-seven companies and almost twice that amount of apparatus answering the calls.

On the previous day, firemen from ten communities were kept busy half the night as a blaze threatened the army encampment at Eatontown and raged through over ten miles of woodland north west of Asbury Park.

Three homes and numerous smaller farm buildings were destroyed in this fire, which started from an undetermined origin. Thousands of soldiers from the Eatontown camp and Forts Wood and Monmouth, aided firemen in battling this blaze, for which damage was set at $25,000.

Radio Station Damaged

The radio station transmitting and generating station held the attention of fire companies from Neptune, Shark River Hills, Hamilton, Asbury Park, Ocean Grove, Allenhurst and Whitesville during the previous week, as a blaze in nearby woodland, fanned along by a strong wind, overcame the efforts of firemen and swept on to the station, destroying over $60,000 in equipment and putting the station, WCAP, off the air for the duration.

Firemen, handicapped by the lack of water, were forced to shuttle back and forth to the nearest hydrant almost a half mile away. Booster tanks were filled here and the engines and men rushed back to the blaze.

Attempts at relaying hose lines to the scene were balked by a low pressure at the hydrant and the fact that an uphill relay would have been necessary. The station stood on the top of a high rise west of Asbury Park.

Interspersed between the calls for forest fires, firemen of Deal, Allenhurst, Asbury Park, Long Branch and Wanamassa were being called continually as a firebug worked in the boro of Deal, and, to date, has set off fires in four homes with a resultant loss of $78,000.

Investigators under County Fire Marshall Oliver B. Presley, Monmouth county, definitely stated the blazes were the work of a firebug, and enlisted the aid of investigators from the State Board of Underwriters. George Scherff, underwriter investigator, would not comment on the blazes, but fire chiefs of both Deal and the assisting departments agreed the homes had been touched off.

In all except one case, the homes burned were unoccupied.

The series in Deal started the month before, when a blaze did $30,000 to the home of Theodore Crane. This blaze was the only one in which the home was occupied at the time of the blaze, although no one was home when the fire was discovered shortly after ten in the morning.

Fire in this case was said to have started in the cellar, under a staircase, and had eaten its way up a wall and broken through the outside clapboards of the wooden structure before discovery by neighbors.

Second in the series came just three weeks later, when the palatial home of Walter Reade, shore theatre operator, was completely gutted in the most mysterious fire of the group.

Coastguardsmen passing by on the Ocean avenue road, and neighbors were startled by a heavy explosion in the house, and the resulting spread of the fire which had the entire house aflame within minutes after the blast.

Firemen worked here for more than four hours before quelling the fire. Army officials quickly rushed to the scene, since the home is situated on the oceanfront and the blaze was lighting up the sky there. Fire in this case was discovered after seven in the evening, and burned until almost midnight.

It was at this blaze that fire officials first decided the fires were the work of a firebug. In the Crane home, there was a possibility of another cause, but in the unoccupied Reade summer home, nothing was evident as to a possible cause for the blast or resulting blaze.

Deal firemen had only a short rest before the fires again popped up, as just a week later firemen were called out at four in the morning, as a radio car patrolman on the Deal police department, discovered another fire in an unoccupied home owned by the Keystone building and loan company. Here, as in the Reade home, the entire building was aflame almost immediately, and when firemen arrived all they could do was to train hose lines on nearby homes. The building was completely gutted.

In the two latter cases, both the homes were of stucco construction with slate roofs, making it difficult for firemen to get to the seat of the blazes.

Incendiary Materials Found

Things went smoothly for a short while, until firemen were called out shortly after noon, when a radio patrolman discovered fire in the large Ocean avenue summer home of Harry Greene, also in Deal. Here, quick work by firemen allowed inspectors to get some of the materials used in starting the fire, as excelsior, rags, pillows and rubbish in the attic, where the blaze was discovered.

Previously, fires had gained headway so fast as to preclude any possibility of finding the materials which started the blazes.

After this latter fire, Fire Chief Howard Douglas and Assistant Chief Fred Zeller, of Deal, said, "We don't see where you could go wrong in stating that the fire which was discovered in that attic was of anything but an incendiary nature."

While these home fires have been the most noticable in the boro's recent fire history, the department has been kept busy by smaller alarms, having, at one time, been out on calls twelve of thirteen days. This, in a department usually visited by only three or four calls a month, is worthy of comment.

All the blazes have been set in the beachfront section of the boro, it was noticed, and thus caused considerable comment on the possibility of dimout violations and lighting up the ocean-front area in violation of army and coast guard rulings.

In every case, army and coast guard personnel and officials have been quick to respond to the scene.

FIREMEN MAKE MANY RESCUES AT APARTMENT HOUSE FIRE

Approximately Fifty Persons Carried to Safety at Large Apartment Blaze

By Bob Greenock

WEARING gas and smoke masks, firemen from seven truck companies and a number of miscellaneous companies worked swiftly and efficiently to save at least fifty persons trapped in smoke and flames as fire raced through the four-story apartment house, known as the Castle Hill Apartments, at 1409 Geary Street, San Francisco.

Fire Spread Rapidly

The fire, one of the most spectacular apartment house fires the city has ever known, swept through the building with such rapidity that more than fifty of the 200 occupants of the building's forty-four apartments were found wandering dazedly through corridors of the upper floors by first-arriving firemen.

Heavy loss of life appeared so probable in the early phases of the fire which made a firetrap of the building by eating up through the first floor from the basement where it started and then engulfed the main stairway that when Fire Chief Albert J. Sullivan made a recheck of the premises after the fire had been brought under control, he described as "almost miraculous" the fact that no lives were lost.

First warning of the fire came from a passerby who pulled Box 3323, Geary and Octavia Streets, at 1:36 a.m., on June 14. Chief Sullivan arrived on the second alarm, sounded at 1:41. A special call for one truck company followed at 1:43. On the heels of that call, a third alarm was transmitted at 1:44, a special call for two additional trucks at 1:47, a special call for the Fire Patrol at 1:48, a fourth alarm at 1:53, a special call for two chemical companies at 1:55, the Rescue Squad was summoned at 2:02 a.m., and a light wagon at 2:16.

Firemen raised ladder after ladder to the various floors of the building, then swarmed like ants up and into the building.

Although the interior of the building was gutted, firemen managed to carry or lead all those trapped to safety.

Four tenants and two firemen were taken to Central Emergency Hospital for treatment for injuries ranging from smoke inhalation to a foot torn by a nail.

Emergency hospital crews gave first aid to others on the spot and Battalion Chief Thomas Keohane and Firemen Robert Lynch and William Biddleman were treated for cut hands at the scene.

An investigation was immediately begun into the cause of the fire, which did $60,000 damage, and Fire Marshal Frank Kelly, after a preliminary investigation, said he didn't like "the looks of things—she spread awfully fast." He then revealed that the night before the manager of an apartment building in the same block had found some wadded up newspapers burning in the corridor of an upper floor, apparently the work of a firebug.

Many auxiliary firemen aided in the fight and other civilian defense workers helped the police and Red Cross.

W. T. Cole Dead

William T. Cole, retired President and Director of the Fabric Fire Hose Company of Sandy Hook, Conn., died on October 9 at his home on Cole's Hill, after a lengthy illness. He was 82 years of age.

Mr. Cole, a native of Paterson, N. J., was the son of the late William and Elton Cole. He attended Tallman's Preparatory School and received his commercial training in the Paterson Business College. His first employment was as clerk in the First National Bank at Paterson.

While serving in that capacity he formed a partnership for a silk manufacturing business, which operated under the name of Cole and Knapp. In 1890 Mr. Cole withdrew from the firm and became identified with the Fabric Fire Hose Company of New York City, which moved to Sandy Hook in 1900 to continue in the manufacture of fire hose.

The deceased represented Newtown in the Connecticut State Legislature during 1929. He was also a trustee of the Newtown Savings Bank. He retired from active duties in 1941.

In addition to his wife, Susan M. Winters Cole, he is survived by one son, Charles S. Cole of Sandy Hook, President of the Fabric Fire Hose Company; two granddaughters and a grandson.

THOMAS F. MAGNER.

Bowser Heads Indiana Chiefs

Chief Carter Bowser, of the Fort Wayne, Ind., Fire Department, has been elected President of the Indiana Fire Chiefs' Association. Chief Archie McCabe of Muncie, is Secretary.

New Fire Apparatus for Roselle, N. J.

The Roselle, N. J., Fire Department are the owners of a new Pirsch intermediate aerial ladder truck and a Pirsch 750-gallon pumper. The fire department, as a result of this equipment, has organized a truck company and a new engine company. Shortly after the aerial truck was delivered, the department rescued a woman and five children who were trapped in the upper floors of their home. All six were carried to safety down the aerial ladder. Chief George S. Wright heads up the department.

Dominion Chiefs Meet

The annual meeting of the Dominion Association of Fire Chiefs was held at St. Catharines, Ont., on August 24-27. It was the largest and most successful in the entire history of the Association, there being 439 members and guests registered at the meeting.

Addresses at the meeting were delivered by many outstanding speakers from both the United States and Canada, with Brigadier General Alexander Ross, Director of Civil ARP for Canada, and Chief Roi B. Woolley of the U. S. Office of Civilian Defense as annual banquet speakers. Other speakers included Col. Carl J. Richmond of the Plant Protection Division of the U. S. Army, Washington, D. C.; Column Officer D. A. Laing of the Corps of Canadian Fire Fighters in Great Britain, Ottawa; Mr. R. C. Mold, Director of Fire Protective Equipment, Wartime Prices and Trade Board, Toronto; Mr. Charles B. MacQueen of the Canadian Underwriters Association, Toronto; and Lieutenant Nelson Rathbun of the Brantford Fire Department. Taking part in the Fire Marshals Forum were Dominion Fire Commissioner W. L. Clairmont, Deputy Fire Commissioner F. X. Ahern of Quebec, and Major E. Desjardins, Deputy Fire Marshal for the Canadian Army, Ottawa.

Fire Marshal W. J. Scott of Ontario, after reporting on the work of the Fire Marshal's Office and civilian defense activities, announced that by the direction of the Hon. L. E. Blackwell, Attorney General for Ontario, the Fire Marshal's Office was establishing a "Service Firemen's Register" to help firemen now in the Naval, Army and R. C. A. F. Fire Services and the Corps of Overseas Fire Fighters to get peacetime employment as firemen.

Photo Courtesy of W. J. Scott

Snapped at the St. Catharines Meeting

Left to right are Flight Sergeant Joshua Parke, R.C.A.F., formerly fire chief at Glencoe, Ont.; Roi B. Woolley, O.C.D., Washington; W. J. Scott, Fire Marshal, Toronto, Ont.; Chief James Armstrong, Secretary-Treasurer; Chief Ernest Woods, who presided at the meeting; Chief J. J. O'Kelly, newly elected President and Chief W. L. Andrews, newly elected First Vice-President.

Photo Courtesy of W. J. Scott

Speakers at the Dominion Conference

Left to right: Chief Daniel B. Tierney, Arlington, Mass., Secretary-Treasurer of the International Association of Fire Chiefs; Brigadier General Alexander Ross, Director of Civil ARP for Canada; Column Officer D. A. Laing, Adjustant, Corps of Canadian Fire Fighters for Great Britain; Chief Roi B. Woolley, U. S. Office of Civilian Defense, Washington, D. C.

Resolutions Passed

Resolutions were passed by the meeting on a wide variety of subjects including: (1) A request that the National Selective Service give a high priority rating to regular firemen; (2) that the provinces after the war continue the present federal restrictions against the manufacture and sale of unapproved fire extinguishers; (3) that legislation be enacted for compulsory pension schemes for firemen in all municipalities of 10,000 or over and for compulsory liability and compensation insurance for all firemen; (4) that customs regulations be amended to allow municipal fire prevention bureaus to import educational literature free of duty; and (5) that all municipalities include in their post-war programs the bringing of their fire protection facilities up to proper standards.

New officers of the Dominion Association include Chief J. J. O'Kelly of Ottawa, President; Chief W. L. Andrews of Sudbury, First Vice-President; Chief W. J. S. Walsh of Campbellton, N. B., Second Vice-President; Chief James Armstrong of Kingston, Secretary-Treasurer; Chief Allan Clark of Lakefield, Ont., Assistant Secretary-Treasurer. The Board of Directors include Chief Angus Michie of Lachine, Que., Chief W. C. Moffatt of Regina, Sask., Mr. Gordon Hall, Bi-Lateral Fire Hose Company, Kitchener, Ont., and Chief A. E. Woods of York Township, Ont.

Honorary life memberships were conferred on Ex-Chief Kenneth Cassels of Hamilton, Ont.; Brigadier General Alexander Ross, Director of Civil ARP for Canada; and Mr. Roi B. Woolley of the U. S. Office of Civilian Defense, Washington, D. C.

Bush Heads California Protective Services

Loren Bush, engineer for the Board of Underwriters of the Pacific Coast, has been appointed to head the San Francisco Bay Area division of the protective services of the California War Council and will have headquarters in San Francisco.

Mr. Bush is being loaned by the Underwriters and will not receive a state salary according to Homer Buckley, civilian protection officer.

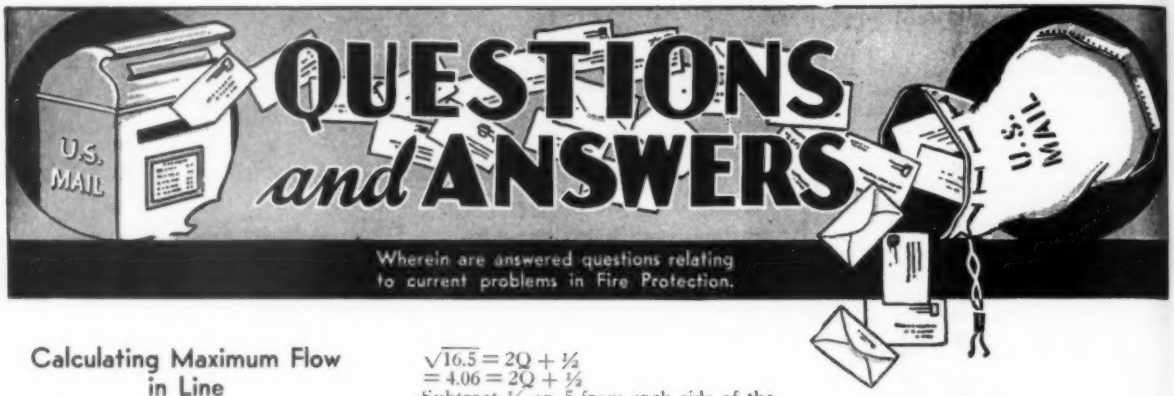
K. B. McCarthy of Eureka was appointed regional officer for the Northern California coast area.

BOB GREENOCK

Photo Courtesy of W. J. Scott

Seen at the Conference

Left to right: Chief W. A. Spalding of Preston, Ont., a Past President of the Dominion Association, and Chief W. J. Walsh of Campbellton, N. B., Second Vice-President; Chief W. L. Andrews of Sudbury, Ont., First Vice-President, and Chief Ernest Woods of York Township, Ont., immediate Past President; Chief James Armstrong of Kingston, Ont., Secretary-Treasurer, and Chief J. J. O'Kelly of Ottawa, Ont., new President; Chief C. J. DeFields of Windsor, Ont., Past President, and his daughter, Miss Ruth DeFields.



Calculating Maximum Flow in Line

To the Editor:

A pump is placed 800 feet from a hydrant and an attempt is made to furnish this pump through a single line of 2½-inch hose, 800 feet long, from hydrant with 75 pounds at the hydrant. What will the pressure be at the intake side of the pump at this distance? Can a hydrant at 75 pounds pressure supply a pump through a single line of 2½-inch hose, 800 feet long, with 15 pounds pressure at the intake side of the pump?

What would be the friction loss per 100 feet?

We have used the formula N. P. = E. P. ÷ (1.1 + KL) and obtained 1.178 pounds at the nozzle. This is obviously wrong. (K = 3.91)

With the above layout, if the line is able to furnish 15 pounds pressure at the intake side of the pump, will it be possible to supply two 100-foot lines of 2½-inch hose equipped with 1-inch tips? H. B. L.

Answer: The formula you employ for finding nozzle pressure or pump pressure of a line of hose feeding into pump at pressure cannot be used for this purpose. This formula is used for finding the butt pressure on a line of hose when there is a free discharge from the butt.

The way to find out how much water the line would supply the pumper is as follows:

Hydrant pressure is 75 pounds. Ten pounds should be allowed for butt pressure discharging into the pumper. This would leave 75 — 10, or 65 pounds available for overcoming friction loss in the hose.

The line is 800 feet long, and the friction loss per hundred feet would be 65 ÷ 8, or 8.125 pounds per hundred feet.

Use this figure in the formula for friction loss and find out what the flow will be.

$F.L. = 2Q^2 + Q$

$8.125 = 2Q^2 + Q$

Complete the square on the second side of the equation and extract the square root of each side of the equation.

Starting with $8.125 = 2Q^2 + Q$, multiply each side of the equation by 2.

$16.25 = 4Q^2 + 2Q$

Add ¼ or .25 to each side of the equation:

$16.25 + .25 = 4Q^2 + 2Q + .25$

Extract the square root of each side of the equation. Then we have:

$\sqrt{16.5} = 2Q + ½$

$= 4.06 = 2Q + ½$

Subtract ½ or .5 from each side of the equation:

$4.06 — .5 = 2Q$

$3.56 = 2Q$

$Q = 1.78$

As Q is measured in hundreds of gallons per minute, this gives a flow of 178 gallons per minute. This is the maximum which the 75-pound hydrant pressure will deliver to the pumper per minute. As a 1-inch nozzle at 30 pounds discharges 162 gallons per minute, it is evident that this layout would produce but a poor stream. You could not, therefore, supply two 100-foot lines of 2½-inch hose, each equipped with 1-inch tip from the engine, when the supply to the engine was furnished by 800 feet of hose, with 75 pounds hydrant pressure.

A more direct, but slightly less accurate, way of finding the flow is by use of the formula:

$Q = ½\sqrt{2FL} — 0.25$

Where Q is the flow in hundreds of gallons per minute, and FL, the friction loss in 100 feet of 2½-inch hose.

Pumping Water

To the Editor:

I heard a statement made recently regarding pumping water and I just cannot understand it.

The statement was that a pump does not pump water. If I understand correctly when a pumping engine is drafting water from a stream the vacuum pump is started and this removes the air from the suction line. When the air is removed from the suction line the water follows and this enters the pump. Through the action of the pump, the water is pumped by the pump, the pressure of which is controlled by the throttle and of course, the size of the outlets. In this case, would you not say that the pump pumps water?

When operating at a hydrant the water enters the pump and the pump, if in operation, discharges the water through the outlets and naturally the pressure and the volume are controlled by the speed of the motor and the nozzle outlets. As in the case above, the pump pumps water.

T. E. B.

Answer: Whether water is taken from suction or from a hydrant, and delivered at a pressure on the discharge side greater than that on the intake side, the pump does pump water.

Of course, it is assumed that by a pump we mean the pump and its power unit.

As you say, in taking water from suction, the pump removes the air from the suction hose, and the atmospheric pressure (being greater than the pressure in the suction line) forces the water up into the suction until it reaches the pump.

Once the pump picks it up and delivers it to the discharge opening, it is pumping water.

Ordinarily either the operation of lifting water by suction (employing a pump) or discharging the water under pressure is considered pumping. Each requires work and this work is done by the power unit which drives the pump.

It would be possible to have a pumper attached to a hydrant and have water discharged through the pump into a hose line without the pump producing any work. In this case, the water, bypassing the pump, would be delivered to the discharge side without the pump doing any pumping.

However, such an arrangement is quite rare.

Purpose of Factor

To the Editor:

In problems showing use of engine and nozzle pressure formulas, the figure 1.1 is used.

Where does this figure come from and why is it used? A. J. H.

Answer: The figure 1.1 appearing in the problems on engine and nozzle pressures, is there for but one purpose, namely, that it is needed to make the results from use of the formula tally with test figures. These formulae are what are known as "empirical formulae." They are designed to give results which tally with experimental figures. There's no explanation for the derivation. By using the factor 1.1 in the formula, results secured by its use tally quite closely with experimental figures. If the 1.1 were changed for any reason, or dropped, then the formula would give results which would not tally with experimental figures.

For your information, in the formula for unlined linen hose the figure is 1.21, instead of 1.1, while in the formula for small rubber lined hose, the figure is 1 instead of 1.1.

Emergency needs have cut quality in many, many things besides WPB restricted Fire Hose. Still, fighting fires efficiently is often just as important as fighting Japs or Nazis. Fire Chiefs, handicapped by light weight Hose, are solving serious Hose problems by following the lead of hundreds in specifying Circul-Air Fire Hose Dryers.

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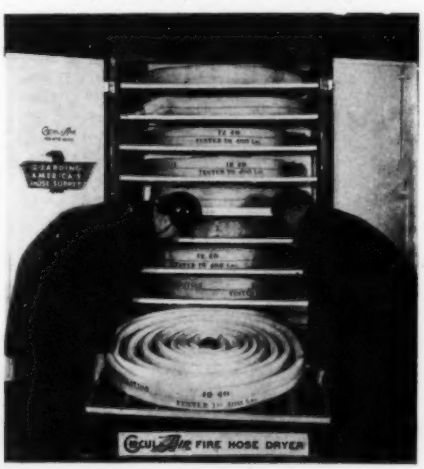

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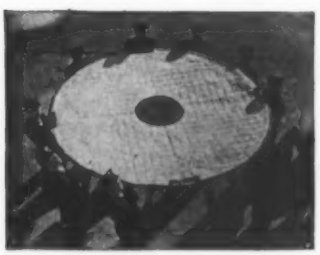

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WITH OUR READERS

Fire Department Training Program of New York State

To the Editor:

The Fire Defense Training Program, as it is carried on in New York State at the present time, utilizes teaching techniques which have produced very fine results up to the present time. We subscribe to the theory that the firemen are better able to assimilate information through visual presentation than through lecture courses. In no instance does an instructor read any material to the class assembled. Wherever demonstration material is used, it has been our intent to arrange the demonstration so that every phase of the operation is visible to the entire class. Where necessary for visibility, glass fronts are provided on demonstration equipment. If any member of the class so desires, he is invited to the platform to try the demonstration or experiment himself.

The pictures herewith show the teaching aids used in our Basic Fire Defense Training Course. Home study sheets used in connection with this course include description of the various apparatus, tools and equipment used in fire departments; care and use of hose; sizing-up a fire; forcible entry; ventilation; overhauling; first aid extinguishers; electrical hazards; pumps and fire streams. One lesson, which had to do with sprinklers and standpipes has been eliminated due to lack of interest in this particular subject. Lesson 13 which in the outline was indicated as "Incendiary Bombs Lesson" has been eliminated entirely and our efforts along this line are confined to whatever recommendations are handed down by the U. S. Office of Civilian Defense. We do not care to be in the position in which we found ourselves recently when the change was made from the teaching of use of a spray to the use of a jet of water in combating magnesium fires.

The advanced course includes information on the "A, B, C" of fire department physics, fire department chemistry; heat, flammable liquids; and gases.

The photographs were taken at the New York State Fire Chiefs' Association meeting in Jamestown last Spring and include most of the teaching aids used in our lessons.

Because it is my opinion that questionable fires will occur more frequently, and in fact at the present time they are occurring more frequently, we have incorporated an arson detection section. While the course material has not as yet been prepared, we have several demonstration items and have developed an arson investigation form which has met with fair success. A number of men have expressed a desire to hand this form to various departments which have been requesting something definite along this line.

At least ten incendiary fires have come to our attention in a period of two weeks, some of which have resulted in sizeable losses, so I think that perhaps we will have to stress this phase of our work a little more strongly in the future.

You will also note in one of the photographs that we have a Fire Department Rescue Course. This course is taught entirely by the demonstration and class participation method. We have miniature buildings to demonstrate the various types of construction, bearing walls, curtain walls, etc. This course was compiled at the request of the fire departments in the Western part of the State.

We have at the present time requests for forty-five or fifty fire schools to be conducted in the State. Originally these schools were conducted on a county-wide basis, but because of travel conditions and work conditions it has been found necessary to hold smaller schools. The results of the schools so far justify this action.

Sincerely,
Captain EDWARD F. CURREN
Chief State Fire Instructor

Officials of the Fire Defense Training Program

Left to right are William H. Frank, State Fire Administrator; Colonel Edward C. O. Thomas, State Director Civilian Protection, and the Hon. Seth T. Cole, Chairman, New York State Volunteer Firemen's Association Law Committee, at the demonstration conducted at the New York State Fire Chiefs' meeting.

Teaching Aids Used in New York Fire Defense Training Program

1. Basic training demonstration showing types of extinguishers and the various fires they are to be used on, etc. 2. Rescue agencies demonstration. 3. Advanced fire training demonstration. 4. Arson detection.

The Welfare and Safety of the School Child

To the Editor:

I feel sure you will find this item and picture written to one of our local newspapers by a parent of interest to you and your constant readers.

Piece of Corroded Gas Pipe

"The City of Wheeling, W. Va., has been very fortunate in the past years to have had so few school fires and loss of children's lives from school fires.

"The last school fire in the City of Wheeling was on January 3, 1914, one, which many citizens will recall, damaged the Wheeling High School at a loss of $51,685 and took the lives of three firemen.

"A school fire is known throughout the United States to take more lives of firemen than any other type of fire. This is because the life of a child means more to a fireman than his own; self preservation and danger is forgotten in the effort to save the life of a frightened and helpless child.

"There is a very good reason why we don't have many school fires, which is unknown to many parents.

"I am advised that every year during vacation and before a school is opened, through the cooperation of the Natural Gas Company represented by District Manager G. E. Wilson and their competent engineering staff as well as the Fire Department, represented by Chief E. T. Rose and his inspectors, a thorough inspection is made of each and every school building and all public buildings for defective gas pipes and leaks.

"In the picture herewith is an example of their inspections. Here you see a piece of gas pipe that came out of one of our local schools. This is only one of many defects found and proves the value of constant inspections. Looking at this rotten pipe gives one the shivers, to think what could have happened if this leaking pipe had not been found. Thank God we have caretakers like these men, protecting our citizens of tomorrow."

Yours very truly,
E. T. Rose, Fire Chief
Wheeling, W. Va.

Record Breaking Run

To the Editor:

This is to advise you that the U. S. Army Fire Department team at Fort Slocum, New Rochelle, N. Y., consisting of the following soldiers: Corporal John Kiesel, Pfc. John Stiefel, Pfc John Hischak, Private Dick Skable and Private Ed Kolbicz, in the presence of Colonel Arthur W. Waldron, Post Executive Office; Captain Rodger Vanderbrook, Post Engineer and First Lieutenant Busick, Assistant Post Engineer, who acted as official time keepers, broke the previous world record of sixty-six seconds, held by the Fort Tilden, N. Y., Fire Department. The Fort Slocum team completed the evolution in forty-two seconds flat. The above mentioned officers used stop watches.

Cordially yours,
Alexis B. Cuneen, Fire Chief,
Fort Slocum, New Rochelle, N. Y.

New Use for Clapper Valve Siamese Coupling

To the Editor:

I believe I have a new use for a clapper valve siamese coupling.

All my hydrants are double port Greenburgers and I use a clapper valve siamese at the hydrant and hook the 2½-inch line to the male stem of the clapper valve. This gives water at the fire before the pumper is hooked up. In the event that the pumper is needed, it can be hooked up without any interruption to the line.

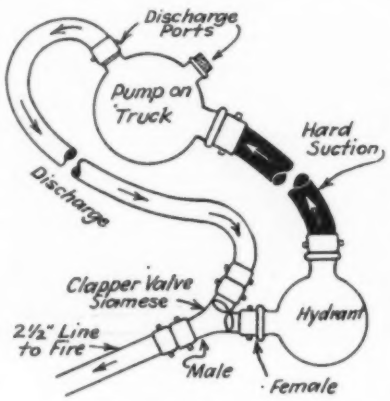

Diagram of Coupling

The suction is hooked up to second 2½-inch port on hydrant. The discharge is from pump to clapper valve siamese.

When pump pressure exceeds hydrant pressure, clapper valve on line from hydrant closes and valve on pump discharge opens.

In the event of pump failure, clapper on discharge closes and water is delivered directly to hydrant without any shut-down.

This works the same as the Blake valve or a four-way valve.

Sincerely,
Rolf Bremer, Chief,
Marin City, Cal.

Firemen Die in Fire in Railroad Tunnel

Three Denver, Colo., firemen died September 20 fighting a fire in the timbered walls of a 1,600-foot railroad tunnel twenty-seven miles northwest of Denver. Immediate cause of death, according to Fire Chief John F. Healy, was carbon monoxide gas.

The dead are James Williams, 37, Chief Healy's driver; John Kennedy, 34, Engine 8; and Douglas V. Parrish, 49, machinist in the fire department shops.

The Denver firemen responded to the fire with Engine 4's 1,200-gallon pumper at 6:30 p.m. when the blaze got out of control of fire-fighting equipment of the Denver and Salt Lake Railroad. The pumper, one of Denver's newest, was loaded on a flat car and taken to the scene with a picked crew of firemen under command of Captain William R. Parry of Engine 8. Williams, the Chief's driver, was detailed to go because he had considerable experience with mines, and Parrish, the machinist, because he was an expert on pumps. The rest of the crew consisted of volunteers from Engine 8.

No Natural Water Supply

When the firemen reached the scene they laid 600 feet of two and a half inch hose into the eastern end of the tunnel. Their water was taken from three tank cars dispatched by the railroad, as there were no roads near the tunnel, nor any natural water supply.

Captain Parry, Kennedy and Williams donned smoke masks and penetrated the tunnel several hundred feet. Parry's mask failed to work in the oxygen-deficient atmosphere, and a few minutes later he came stumbling out of the tunnel entrance. Shortly thereafter a sudden gust of wind came up followed by a crash of timbers inside the tunnel. When the other firemen failed to appear, Parrish, who had been operating the pumper, feared a backdraft and plunged into the tunnel wearing a gas mask. G. E. Hamilton, the D. & S. L. roadmaster then took a mask and went in search of Parrish. He stumbled over Parrish's body 100 feet inside. Hamilton was losing consciousness trying to drag out Parrish when other railroad men came to his assistance.

Parrish's death was due to suffocation, according to Coroner George W. Howe of Boulder County.

Death Due to Suffocation

The rescuers were unable to reach the other two men, Williams and Kennedy. Their deaths were also attributed to oxygen deficiency, although it was believed their bodies were possibly cremated afterward by fallen burning timbers. By the morning of the 21st the tunnel was a roaring blast furnace and members of Rescue Squad 4 of Denver, dispatched by flat car at 1:25 a.m., were unable to get to the missing men.

D. & S. L. executives said the fire apparently started when an engine threw a hot spark which lodged against timbers in the tunnel and smoldered there until it burst into flame.

The crew of a train coming out of the tunnel shortly before noon September 20 smelled wood smoke, and an investigation led to discovery of the flaming wooden tunnel supports.

By the time track workers arrived at the scene, the fire was beyond their limited equipment, and an appeal was made to the Denver fire department for aid.

The tunnel was built between 1902 and 1905 and contained many of the original timbers. About two-thirds of the tunnel is timber, the remainder being rock, sufficiently strong to stand by itself. Timbering is intermittent.

Staff Sergeant Robertson Page.

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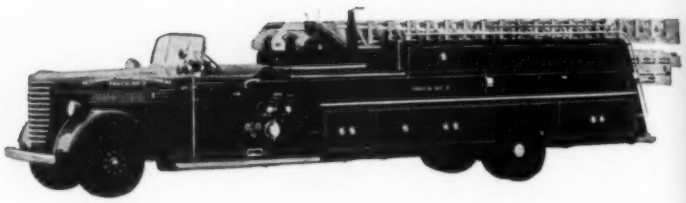
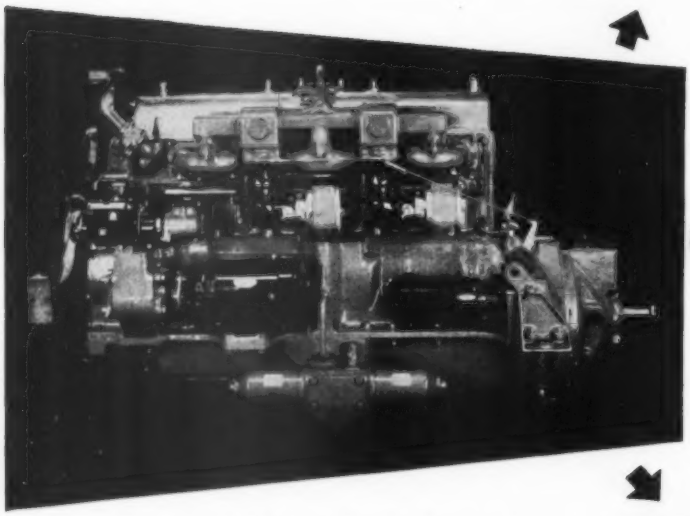
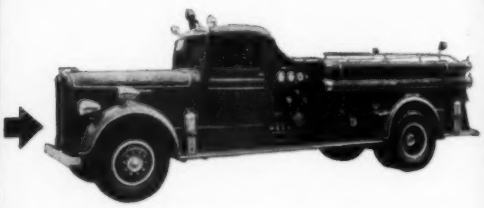


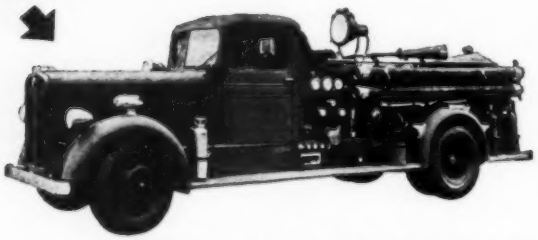
Peter Pirsch and Sons quadruple combination, powered with Hall-Scott Model 177 engine. Owned by Alhambra Fire Department, Alhambra, California.



Hall-Scott Model 177 engine for fire truck service. This engine has 6 cylinders 5½" x 6", a piston displacement of 855 cubic inches, a maximum torque of 735 foot-pounds at 1200 r.p.m., and develops 243 h.p. at 2200 r.p.m.



Kenworth triple combination 1000 gallon pumper, powered with Hall-Scott Model 177 engine. Owned by Seattle Fire Department, Seattle, Wash.



Kenworth triple combination 1000 gallon pumper, powered with Hall-Scott Model 177 engine. Owned by Boeing Aircraft Company, Seattle, Washington.

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RUBBER AND DUCK COATS FOR FIRE FIGHTERS

FIRE fighters need fire coats to protect them when they are fighting fires. Two types are commonly used: the regulation rubber coat and one made of canvas or duck.

Below are given the opinions of a representative group of fire chiefs from all sections of the country regarding the type of fire coat used in their departments and their reasons for preferring that particular type.

Readers are invited to send in their comments on this subject, for inclusion in the discussion which will be continued in the next issue. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, New York.

HERE IS THE QUESTION

Do you favor the use of the regulation rubber fire coats or do you prefer the waterproof duck or canvas turnout coats? What are the reasons for your choice?

Discussion of the Topic

Thomas H. Shipman, Chief, New London, Conn.: In our opinion there are advantages and disadvantages to both the canvas and rubber fire coats, but we use the canvas coat to a greater extent.

The rubber coat, we believe, is the better in a busy department where they are worn out within a period of five or six years, as this is about the life of the rubber. It is lighter, will shed water and is easier on the men.

The canvas coat in a small department is more economical as it is good for many years before replacement is necessary. However, they will become water soaked, heavy and will freeze in the winter making them uncomfortable for the men.

F. A. Taylor, Chief, Colorado Springs, Colo.: The men in this department very definitely prefer the duck or canvas turnout coat, the reasons being that the rubber coat is uncomfortably hot to wear in a hot spot or in hot weather and is too cold to wear in cold weather. They also get much longer service out of the canvas coat.

C. A. Delaney, Chief, Lakewood, Ohio: I favor the rubber fire coat. The rubber coat offers the greatest degree of protection for general use. A good grade of rubber coat is always dry and does not require the drying process which usually follows the use of the duck coat when water has been used extensively.

It has been found that the rubber coat is much easier to wash and keep clean, a requirement of our department, thereby reducing to a minimum the probability of soiling furnishings and merchandise which firemen may be required to handle in the event of a fire.

Zephrin F. Drouin, Chief, Lewiston, Me.: This department has adopted the Midwestern "Vanitex" coat and detachable lining. We find it very satisfactory. Some of our men for winter use, prefer the turnout suits which they purchase themselves. Consequently we have several different makes in the department.

L. B. Barnum, Chief, Phoenix, Ariz.: We favor the duck or canvas coats. Due to the heat in Phoenix the rubber coats rot quickly and at fires the rubber melts, which the canvas or duck coat will not do. In colder climates where they have ice to contend with I believe the rubber coat might give as good results as the canvas coat does in the warmer climate.

W. L. Ryan, Chief, Dubuque, Ia.: We prefer the duck or canvas coats. Rubber deteriorates, is subject to heat adhesion and tears easily, thereby making rubber coats unsatisfactory for use in fire departments.

J. E. Dellinger, Chief, Macon, Ga.: We have in the past used rubber coats, but now use duck or canvas. We prefer them to the rubber coats. They are warm and flexible and can be gotten in short lengths. The rubber coats are long and too much in the way. They also tear easily.

F. A. Murray, Chief, Teaneck, N. J.: I prefer duck or canvas coats to rubber ones. Although they cost twice as much, they last four to six times as long. They are more flexible especially in cold weather and are more comfortable. In hot weather when firemen wear light underwear and the skin is exposed directly to the underside of coat while working in extreme heat close to fire, the rubber coat will cause severe blisters. This will not occur with canvas or duck coats.

M. J. Shea, Chief, Fitchburg, Mass.: We have for several years used a coat made of rubberized fabric. This coat is giving us very good satisfaction in every way. It is, in my opinion, a great improvement over the duck or canvas coats which we used some years back. The duck or canvas coats seemed to absorb the water and become very heavy. In cold weather they freeze when wet and have a tendency to become inflexible.

Louis J. Mosher, Chief, Elmira, N. Y.: The rubber coat has one good feature. It does not freeze and get stiff in cold weather; the ice forms and then cracks. It is not as durable as a canvas treated coat, for in cold weather it tears easily.

A canvas treated coat, just short of the knee such as our department uses, is much warmer, more durable and will not tear easily. These coats are supposed to be treated with some preparation so they will not become too stiff in freezing weather. I believe that if there was a belt on it to pull the coat closer to the body, it would be much warmer, not allowing wind to come up underneath.

The rubber coat always was wet with moisture underneath across the shoulders. When a man gets cold there, he gets cold all over.

H. P. Constantine, Chief, Bangor, Me.: The canvas coats do not seem to hold as much heat at fires as the rubber coats. The rubber coats tear very easily and once torn, they cannot be repaired satisfactorily enough to make waterproof.

Chris Smith, Chief, Muskegon, Mich.: We have been using the Midwestern coat for about fourteen years and find them very satisfactory.

I don't believe any one of the men in the department would want to use any other.

We did use canvas coats for several years before we changed to Midwestern but most of the men did not like them.

I believe that every department should use what they like best.

Frank L. Taylor, Chief, Owensboro, Ky.: The duck or canvas turnout coat

is preferred in our department. Of course, the duck doesn't turn water as does the rubber. On the other hand, if you get in contact with real heat or a blaze, it is not often possible to work up close to the fire with rubber, as it seems to conduct more heat to the body than duck. If the rubber coat gets real hot, it has a tendency thereafter to stick when folded.

J. L. Croom, Chief, Wilmington, N. C.: I prefer canvas coats because they are more serviceable and will give more protection to them. The men can get around better in the regular length duck coats than in the rubber.

Burr Hamilton, Chief, Marion, Ind.: From my experience of fire fighting, I believe that the canvas fire fighting coat is far superior to the rubber coat. It is much warmer in the winter and cooler in the summer with the detachable lining.

A canvas coat does not tear as easily as does a rubber coat. If it does, it is more easily repaired.

A rubber coat is much too hot when fighting a hot fire.

Walter S. Blanton, Chief, Savannah, Ga.: I do not favor the rubber fire coat for the fire department as rubber draws heat. We have tried them and the men got entirely too warm when they got close to the fire. I prefer the coat that we call a quick hitch coat, made by the Globe people. It turns the water and heat.

Frank Bennett, Chief, Durham, N. C.: We do not use any regulation rubber coat in the fire department. In past years we did use them but found that the men were hindered to some extent when climbing ladders; also they were unable to approach a fire due to the heat penetrating the rubber coats unless heavy clothing was worn underneath. Several of our men have sustained very bad blisters around the shoulders and chest due to heat penetrating this type coat when operating at fires where it was necessary that manually operated lines be in the front line of attack. However, I do believe that members of the Inspection Department, when weather conditions permit, should be supplied with this type.

We use the canvas type coat and find it very satisfactory.

M. J. Brun, Chief, Fort Smith, Ark.: We prefer the duck or canvas turnout coat because they seem to resist heat better than does the rubber coat. It is warmer in cold weather.

E. F. Reed, Chief, Middletown, Ohio: I favor the canvas or turnout coats for fire service. Both rubber and canvas coats give equal protection from water. Regular canvas or night turnouts as we term them, give better protection from cold and from the heat of a fire. Rubber coats will burn a person up when exposed to a fire. I believe a full turnout suit (coat and trousers with boots) gives better all round protection and gives a fireman more comfort.

Joseph L. Trudell, Chief, Bay City, Mich.: I much prefer the regulation rubber coat. My experience with duck or canvas coats is that they are inclined to get stiff and wrinkly and will shrink after being wet and dried out. They absorb a certain amount of water which in zero weather causes them to stiffen up to a great degree in comparison to the regulation rubber. After becoming wet and coming in contact with dirt, sand and grime from burned timbers, etc., they are very hard to clean again in comparison to the regulation rubber which washes off easily. To get the same amount of body protection from duck or canvas, comparable to the regulation rubber, the coat would have to be built too bulky for freedom of action.

Leo J. Urbanski, Chief, St. Joseph, Mo.: I am in favor of the duck or canvas coat over the regulation rubber coat. Through actual experience I have found that it is possible to stand more heat with a duck coat. They do not snag as easily as the rubber coat and will outlast it in actual service. While it is true that the duck coat will freeze when soaked, I still prefer the duck coat to the rubber one.

L. L. Petrey, Chief, Mobile, Ala.: This department favors the use of the regular rubber lined fire coat. Our experience with the canvas turnout coats is that after they are two or three years old they soak up quite a quantity of water and leak, which causes additional weight for a fireman to carry.

Thomas G. Fisher, Chief, Norwood, Ohio: I prefer duck or canvas coats to rubber ones. My experience with the rubber coat is that it cracks over the shoulders allowing water to soak through. A good canvas coat with an inner lining, in my opinion, is more serviceable.

S. J. Flores, Chief, Shreveport, La.: I favor the duck or canvas turnout coats because they don't break and burn up from heat as quickly as do the rubber coats.

* * *

The following replies are in answer to a previous question on the use of a master fire alarm box in places of public assembly.

Claude Osborne, Chief, Decatur, Ill.: We do not require fire alarm boxes at schools, theatres or places of public assembly.

It would be advantageous to have the private alarm system connected to some switch in the principal or other office. However, I do not feel that all drills and accidental alarms should come through the municipal system.

L. L. Petrey, Chief, Mobile, Ala.: We do require fire alarm boxes at schools, theatres and other places of public assembly. Most of the above have boxes at the corners. These boxes are independent.

I believe these boxes should be connected to the building alarm systems. The advantage of interconnection of such private alarm systems to the municipal systems is that the aid of the fire department can be summoned more quickly. We have several of the stores in the business district so connected and also one of the shipyards.

Fred J. Washburn, Chief, Auburn, N. Y.: Fire alarm boxes are required by State Law at schools, asylums and hospitals. Installations at other places of public assembly are optional.

The advantage of interconnection of the private systems with the municipal systems is the saving of time. Also there is better supervision and maintenance when the private systems are connected to the municipal systems by master boxes.

THIS DISCUSSION WILL BE CONTINUED

Due to the large number of Chiefs who contributed their experiences, the discussion on this subject will be continued in the next issue.

Blast Levels Linoleum Company Plant

Smoke rises from the pile of shattered concrete and broken glass, all that remained of the five-story plant of the Congoleum-Nairn Linoleum Company in Kearney, N. J., on August 19. Many workers were trapped under tons of wreckage. Here, firemen stretch hose lines into the wreckage to fight the flames that followed the blast. The blast was so violent that windows in the Pittsburgh Plate Glass Company across the Passaic River were shattered.

Ready for the Signal to *Bomb and Destroy*

Official U.S. Navy Photograph

"A Navy war bird awaits the starter's signal to take off for the combat zone."

BOMBERS and Carriers are powerful media of destruction but still they must be protected. The Carrier must be kept safe for the homecoming of this Navy war bird—safe from enemy shells and incendiary bombs.

Guns to fend attacks from the sea and air and, equally important, adequate fire protection to quickly extinguish that dread foe, "a fire on ship at sea."

National Foams have met the extreme tests in combating fires at sea, saving lives and tonnage to carry on.

Foam Fire Protection as developed by National Foam System has been adopted and is being used extensively by the U. S. Navy, by most oil refineries and many other important industries.

In Fire Department Service

National Foam System has equipment especially designed for the use of Fire Departments to meet all types of fire fighting requirements. Complete engineering service available.

The experience of our engineering department is at your service.

NATIONAL FOAM CONTINUOUS FOAM PRODUCTION SYSTEM

NATIONAL FOAM SYSTEM, INC.

Specializing in Foam Fire Protection

1632 Sansom St., Philadelphia, Pa.

HELPING BOOST THE BOMBER

BIRTH RATE

How Cardox Systems Protect War Industries

- Timed discharges, as needed, through built-in piping systems . . . supplied instantly from a single storage unit holding tons (if required) of liquid Cardox CO_2.
- Mass discharge of Cardox CO_2 "knocks out" fire, by . . .
- Reducing oxygen content of the atmosphere below the concentration necessary for combustion, and . . .
- Cooling combustibles and fire zone below ignition temperature . . .
- Extinguishing fire quickly and completely *without* damage from extinguishing medium.

CARDOX—CO_2 Systems with Enhanced Fire Extinguishing Performance

A. Uniformity of CO_2 characteristics.
B. Extinguishing medium with uniformly greater cooling effect.
C. Accurate projection of CO_2 through greater distances.
D. Timed discharges, as needed, through built-in piping systems . . . supplied quickly from a single tank holding tons of liquid Cardox CO_2.

• Before a Flying Fortress . . . or any other war plane . . . takes to the air, an amazing number and variety of parts must be fabricated, assembled and tested. Should fire occur anywhere along the line . . . throwing production schedules out of time . . . the bomber birth rate is likely to take a dangerous nose dive.

There are Allied planes making it tough for the Axis today that wouldn't be in the air except for the fire extinguishing performance provided by Cardox Fire Extinguishing Systems.

Engineered applications of Cardox Systems are guarding against delay of vital war industry—for example, in plants producing:

Airplanes, Aviation Engines, Aviation Carburetors, Airplane Parts, Engine Parts, Plastics, Rubber Products, Processed Fabric, Tanks, Tank Engines, Cold Strip Steel, Armor Plate, Forgings, Solvents, Motor Fuel, Electric Power.

Cardox Fire Extinguishing Systems give a maximum of protection . . . guarding *time* as well as equipment . . . by providing (1) immediate extinguishment by cold, inert carbon dioxide, which quickly smothers and "cools out" large or small fires; (2) elimination of damage by the extinguishing medium means machines and materials are usually back in production quickly.

Today Cardox is concentrating its engineering and manufacturing facilities on two vital phases of America's current emergency: (1) The design and manufacture of Cardox Fire Extinguishing Systems needed by a wide range of war industries to maintain and increase the birth rate of battle equipment; (2) working with industry on plans to increase the efficiency of fire protection both today and after the war.

If you would like more information, write on your company letterhead for Bulletin 1910.

CARDOX CORPORATION
BELL BUILDING • CHICAGO, ILLINOIS
District Offices in **New York • Washington Detroit • Cleveland • Atlanta • Pittsburgh San Francisco • Los Angeles • Seattle**

MASS DISCHARGE OF CO_2 · ENHANCED COOLING EFFECT · CENTRAL STORAGE UNIT · AMPLE CO_2 RESERVE · ENGINEERED SYSTEMS · MANUAL OR AUTOMATIC CONTROL

CARDOX

NON-DAMAGING FIRE EXTINGUISHING SYSTEMS

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

The WATCH DESK

Our inquiring reporter overhauls the firemanic news of the day

Write Your Own Caption!

Was it bread cast upon the waters? Nemmind! This has to do with Ben Camburn, Bradley Beach (N. J.) boro fireman who smothered a fire in the motor of a bakery truck with—of all things!—bread crumbs!

Seems the driver of the truck had parked it out front and gone into Camburn's house to make a call to his garage about some trouble in the vehicle. When he emerged, the truck was afire. Came then Brother Camburn, who shot in an alarm, then grabbed up handfulls of bread crumbs and smothered the flames before the rest of the Brothers arrived. Some crust, sez we, to spoil the good work of the gang! Thanks, Bill Schwartz.

* * *

Perfectly Ducky!

In much publicized Sun Valley (Ida.) there's the Sun Valley Volunteer Fire Department. Good lads, too. They drill'n everything. Well, on one of these practice fire drills, the employees (they work in the huttel, or whatever you call it) all rushed from the buildings for the fire engine, situated in the village garage. When they arrived there, they were startled to see trailing behind them in single file, six mallard ducks, all attracted by the racket, no doubt from the village duck-pond. Our contrib' saith not what happened to the ducks—but don't tell us, don't tell us—let us guess.

* * *

Wealth, Shower Down!

Not pennies from heaven, but a shower of $10 bills dropped onto Toronto (Ont.) firemen while they were fighting a fire in the dental office of Dr. A. Gott. The bills came fluttering down outa the sky, while the firemen chopped a hole in the ceiling of Dr. Gott's place. Gott explained later that he had placed a box containing $3,300 in the attic for safe-keeping. About $300 was destroyed by the fire. Gott got the rest—we hope. . . . (E. R.)

* * *

Keokuk Brothers Celebrate (?) Fourth

Although no serious fire damage occurred to up the yearly fire loss of Keokuk (Ia.) the Brothers found various and sundry other jobs to keep 'em busy over last Fourth of July holidays. Things got off to a good start when Mrs. T. C. Hackaday called fire headquarters to report that she had put out a fire in furnishings caused by children playing with matches. Then, at 7 p.m. Saturday the lads were called to the Gate City Service Station where fire department ladders were used to repair a hoisting rope on the tall flagpole so's Old Glory could be lowered for the night. On Sunday P.M. an inhalator crew was hustled to Manhattan Beach to administer first aid in a drowning which claimed life of one man, threatened lives of two others (who were saved). That evening more of the Brothers were dispatched with ladders to a feed store to repair a hanging advertising sign blown loose by wind during Sunday's storm.

Just goes to show the versatility of these 'yere firemen!

* * *

Duck, Brethren—Or "Let Us Spray!"

Firemen are called upon to perform divers and sundry deeds, but here's one of the most unique of 'em all. It happened in Washington (D. C.), according to our District of Columbia informant and it concerns Bishop Grace of the House of Prayer for All People, more than 500 religious converts, and Engine Company 4 of the District of Columbia Fire Department.

When the time came to baptise his huge flock of converts, the Bishop was not a bit nonplussed. He simply stated his case to the Fire Department and lo and behold, cometh the Brothers in Blue, aboard Engine 4. The converts were herded on M Street between Sixth and Seventh Streets NW; the pumper was "moored" at the nearest hydrant, the line stretched, pipe attached, and at the right signal relayed from the Bishop, the water was turned on and the stream from the "baptismal font" made it all religiously "legal."

As to the hydraulics of it—pressure, nozzle, et cetera, deponent saith not, but we'll bet the Brothers of Engine 4 had a swell time of it even if the converts didn't. It seldom falls to the lot of any of us to be able to legitimately turn a stream onto anybody, let alone a crowd of 500! O.K. there, pipeman, start yer water!

* * *

A Sister Act—Or Just Bugs on Buggies

Whenever a fire truck goes sireening down the streets of Roanoke (Va.) two of its most interesting spectators are manufacturers of fire equipment. And they are women. Mrs. Kathryn Lemon Counts is the 34-year-old owner of the Oren Fire Apparatus Co., in Roanoke, a business started 26 years ago by her father who died in 1932. She's probably the only woman in the country to own and operate a fire apparatus company. Her sister and secretary-treasurer of the company, is Mrs. Dorothy Brigham. Both of 'em aroused no end of interest and some skepticism among the Braves at the Chicago conference of the International Association August 31-September 4 where they had an exhibit. Says Mrs. Brigham, **"We cut our eye teeth on fire trucks."** Says Mrs. Counts, who fills very well the Northerner's idea of a Southern lady and is very feminine: **"I guess men just can't get used to the idea of a woman in this business. A fire chief came in to buy a truck some time ago. He said, 'What do you do here?' When I told him I built fire trucks he looked at my hands and said, 'No you don't, young lady—at least not with your hands.'"**

Oren equipment, our snooper says, is being built now for the Army and Navy on lend-lease; some of it is in use in far off foreign countries.

* * *

Considerable "Hot Foot"

Here's the month's Ripleyesque. It's about Paul V. Weekley and his itching feet. Earle Robinson is the newsclipper. Well, Paul was awakened about 3:30 one morn with an itching foot. For relief, he rubbed his hoofs together vigorously. His feet then began to feel hot. He threw back the covers and found the bed on fire. He extinguished the fire, then turned back to sleep.

Came 4:30 a.m. and the itch returned. Once wide awake, he rubbed his feet together again and—you've guessed it—the bed clothes caught fire. Mr. Weekley couldn't figure it all out at the time, but later he decided that the sheet, quilt and bedspread all were new and perhaps static electricity was what caused the flames. At any rate, he says, **"I've got the burned bed clothes to prove it all"** —and he might have added: **the feet.** Yeah—what a "feeture" he'd make in the circus!

* * *

It's Ever Thus!

A man held a poker hand with four aces in it. He raised and re-raised the pot. He figured he would buy his wife a pair of blue slippers—and perhaps a lot of other things. He was just about to show his hand when the telephone rang. It was the superintendent, and he said: **"Leave at once, the building is on fire!"**

* * *

Orchids to a Dead Friend!

We ran across an item in a Washington paper not long ago which is worth quoting from. It has to do with kindness rewarded, — something the Braves don't always receive.

About four years ago Julian O. Hargrove, Washington (D. C.), suffered a fatal heart attack. His brother, M. C. Hargrove, summoned a physician and on the latter's advice,. the fire department rescue squad to administer oxygen. **"Their constant and effective attention in the administration of oxygen alleviated what otherwise might have been suffering" in the stricken man's final hours,** the brother said, and endeavored to carry out his kin's request that recognition be given the firemen.

Because of District of Columbia regulations, Mr. Hargrove was prevented from making what he considered a proper expression of his appreciation, but he sent a $500 check to Stephen Porter, Chief Engineer of the District Fire Department, as a contribution to the Fire Department's coffee fund—used solely for providnig nourishment for exhausted firemen at the scene of conflagrations. In addition, **"with thought in mind that members of your department might enjoy reading the National Geographic Magazine,"** Hargrove bought one-year subscription for each of the department's 33 fire stations. The District Commissioners approved the contribution.

Manufacturers' Announcements

Lowell E. White Joins C-O-Two Corporation

Lowell E. White, formerly test pilot for the Wright Aeronautical Corporation, has joined the research engineering staff of the C-O-Two Fire Equipment Company, Newark, N. J.

Lowell E. White

Mr. White has been actively engaged in the flying industry for more than seventeen years. Following a period of barnstorming, he obtained a transport pilot's license and become chief pilot and operations manager for Commercial Airways at Richards Field, Kansas City, Mo. Later, he held the same post with White Mountain Airlines, Boston, and still later was chief pilot and operations manager for Curtiss Wright Flying Service, Caldwell, N. J.

Before his association with Wright Aeronautical Corporation, Mr. White was for ten years president and general manager of the White Flying Service Corporation at Caldwell Wright Airport where his firm completed the training of more than 5,000 student fliers and 500 civilian pilots under the government's Civil Pilot Training Program.

War Bonds Given to Winners of Akron Brass Contest

Attracting considerable attention at the International Fire Chiefs Association War Conference in Chicago were the exhibit of the Akron Brass Manufacturing Company of Wooster, Ohio, and their guessing contest and registration card drawing for war bond prizes.

At the center and rear of the exhibit in the Palmer House was a huge replica of the Rockerlug Coupling with a small actual coupling perched on top. Visitors to the booth were given registration cards and asked to put down their answers to the question: "How much larger is the large replica of the drop forged Rockerlug coupling than the actual coupling?"

Out of the many guesses only the answers of the following seven were correct: Chief Charles DeVleeschower of South Bend, Indiana; Chief John A. Weber of Fair Oaks, Pa.; Chief A. J. Rahn of Two Rivers, Wis.; Mrs. Barney J. Houston, wife of the fire chief of Cincinnati, Ohio; Fireman J. Silverman of Asheville, N. C.; Chief J. C. Fitzgerald of Ashville, N. C.; and Mr. R. G. Anderson, General Manager of Excelsior Brass Company, of Chicago. From the correct answers, 6, the guesses ranged up into the thousands.

In accordance with the rules of the contest a drawing was held of the cards containing the correct answer. With Chief Selden Allen of Brookline, Mass., officiating, the name of Chief DeVleeschower was drawn. A $100 bond has been forwarded to him.

In the drawing of registration cards, also presided over by Chief Allen, the winning card was held by Chief J. Roy Pyle of Kingsport, Tenn. A $25 bond has been forwarded to Chief Pyle.

Booklet Issued on Carbon Dioxide Fire Extinguishing Equipment

The C-O-Two Fire Equipment Company, Newark, N. J., has issued a new booklet describing its line of portable and built-in carbon dioxide fire extinguishing equipment and smoke detecting systems.

The booklet, printed in two colors and illustrated, describes the application and operation of various kinds of C-O-Two equipment such as hand extinguishers with the newly developed "Squeez-Grip" valve, hose rack, hose reel and wheeled units, manual and automatic built-in extinguishing systems used for industrial, electrical and marine protection. Smoke detecting systems and recharging equipment are also included.

Copies of the booklet are available on request.

New Method of Applying Heat in Shock Cases

The Rose-Derry Company of Newton, Mass., are the manufacturers of Lightningpak, a chemical heat pad used therapeutically with great success by the Army, Navy, Maritime Commission and the Coast Guard.

In cases where immediate, penetrating and long-lasting heat is essential, this type of heat pad which requires only two spoonfuls of water to instantly attain

Lightningpak Heat Pad

165 degrees, and which will maintain constant heat for eight hours, has proven very beneficial. This pad also has body ties which hold it securely in place and enable it to mold itself to any portion of the body, thus affording concentrated heat to a particular vital area. The Lightningpak method, both from the standpoint of the patient and the person in attendance, is an ideal heat treatment for shock, gas poisoning, or drowning because of the speed and efficiency of the pad itself plus the ease and facility with which it can be handled.

Many fire rescue squads have installed this heat pad as part of their regular first aid equipment.

(*Continued on page 663*)

The Akron Brass Manufacturing Company Was Much in Evidence at the I. A. F. C. Chicago Conference

Right, attractive display in the exhibit hall; left, drawing in war bond prize contest, left to right, H. L. Stettler, Jr., and S. G. Langher of Akron Brass, Chief Selden R. Allen of Brookline, Mass., who picked the winners, and J. M. Love of Akron Brass.

SAVING LIFE & PROPERTY During War with

Your job of saving life and property on the home front is highly important. Of course, the needs of men in the armed services come first but most of our catalog items can still be shipped with little or no delay. However, we do advise that needed garments be ordered as far ahead as possible.

MIDWESTERN SAFETY COAT

A LIFE SAVER

No. 301

Men wearing Midwestern striped coats can be seen far more easily—in fog—smoke—dust—mist and in darkness. Fewer men lost in debris after a cavein. Fewer men knocked off ledges or ladder by hose stream—or run down by traffic. Send for complete description of this fine life saver coat.

MIDWESTERN
PROTECTIVE CLOTHING
MIDWESTERN MANUFACTURING CO.
MACKINAW, ILLINOIS

Write for literature, price lists and material samples.

MIDWESTERN COMBINATION SUIT

Detachable Linings

Rubberized coat and Bunker pants with detachable wool linings. Flexible elastic inner sleeve for wrist keeps out water, cold and sparks. Wool lining can be added to any Midwestern fire coat at small additional cost. Snap buttons make it easy to attach and detach quickly.

Bunker Pants

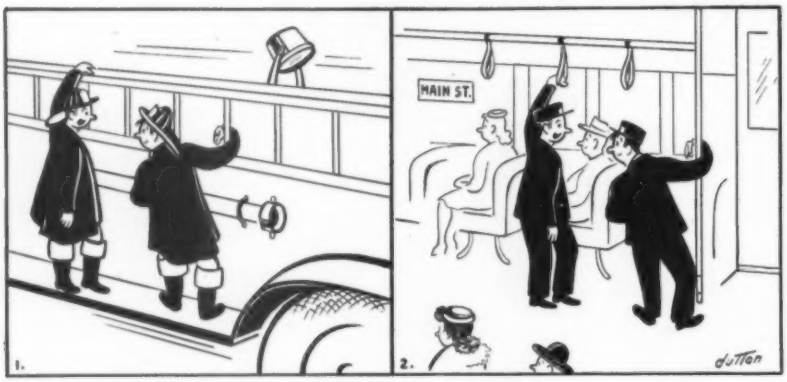
Bunker pants equipped with removable wool lining, sturdy construction, reinforced crotch for pole sliding. These pants, together with coat as illustrated at left, is Midwestern's combination suit No. 101.

MIDWESTERN MFG. CO.

MACKINAW, ILLINOIS

ORIGINAL DESIGNERS AND MANUFACTURERS OF STRIPED SAFETY COATS

FALSE ALARMS



Say Mississippi

Judge: "How do you know this man was drunk last night?"

Cop: "Well, I found him in the club hallway with a can, watering the flowers on the linoleum. Then he says to me, 'I've only had teen Martinis, so I'm not as much under the afluence of incohol as some thinkle might peep, but the drunker I stand here, the longer I get.'"

A battleship was coming into San Francisco one foggy night. On the bridge the Captain turned to a junior officer. "Son, I know every shoal and bar in the three miles of this channel by heart."

Suddenly there was a terrific shock, and the ship came to a stop. "What did I tell you," cried the Captain, "there's one of 'em now."

A lady visitor at one of the busy Kaiser shipyards on the Pacific Coast recently stooped over to tie a knot in her shoe. The next thing she knew, a bottle of champagne was broken across her stern and she was launched!

A wedding carriage was seen driving through the streets of London the other morning. Inscribed in chalk on the back were the words "Result of Careless Talk."

A Hollywood producer received a story entitled the "Optimist." He called his staff together and said, "Gentlemen, this title must be changed to something simpler. We're intelligent and know what an optimist is, but how many of those morons are gonna know it's an eye doctor?"

An angler just returning from a fishing trip has discovered that there are two periods when fishing is good—before you get there and after you leave.

Farm Relief

The salesman had stayed at the farmer's home for a week. When he was ready to leave, he asked:

"How much is my bill, Hiram?"

"Well," figured the farmer, "you had twenty-one meals, and you kissed my daughter about twenty times. Do you think seventy-five cents would be too much?"

An old colored man was asked what breed of chickens he considered best. "All kinds has merits," he replied. "De w'ite ones is de easies' to find, but de black ones is the easies' to hide after you gits 'em."

Too "Wordy"?

Flossie: "You'll never catch me going out to dinner with an editor again."

Girl Friend: "Why? Was he broke?"

Flossie: "I don't know about that, but he put a blue pencil through about half my order."

This fall a friend of ours was driving alone and picked up a hitch-hiker. After the stranger was in the car the driver said:

"Where do you want to go?"

"Nowhere in particular," was the answer. "I'm just out of prison. Served five years as a pickpocket."

"Good heavens," said our friend to himself, "how am I going to get rid of this bird?"

He stepped on the gas and began driving faster and faster until he was going well over 60, when he heard a policeman's whistle. In a moment a motorcycle cop rode up.

Our friend was afraid the cop would find out about his passenger and run them both into jail, so he got out of the car, his passenger also climbing out, and started the usual argument, ending as such arguments with policemen always do with the driver getting a ticket. On his way again, he grumbled, "Now, that's tough, I'll have to come back this way tomorrow and I didn't plan to, to say nothing of the fine I'll have to pay."

"Why do it then?" asked the pickpocket.

"Didn't you see him give me a ticket?" said our friend.

"Yeah," replied the pickpocket. "But that cop ain't got no record of it now. While you were arguing I picked his pocket!"

Science Prof.: What happens when a body is immersed in water?

Coed: The telephone rings.

Freshguy, stepping up to a bus, said: "Well, Noah, you finally got here. Is the Ark full?"

The motorman answered back: "Nope we need one more monkey; come on in."

"Here We Come . . . Ready or Not!"

BOTH OF THESE

ARE PUBLIC ENEMIES

Let RCA Radio Help Crush the Fire Menace, Too!

In hundreds of American cities, towns and counties RCA Radio Systems are helping police battle crime.

The same invaluable aid to quick action in catching criminals should be available to fire departments in fighting fire.

With RCA radio equipment at fire headquarters, and on every fire-truck, instant and continuous two-way communication can be maintained for exchange of information and orders.

Municipal and county officials should be planning to put this vastly important improvement into effect at the earliest opportunity.

Right now, RCA manufacturing plants are working night and day at top capacity, producing radio equipment to help fight Nazis and Japs.

But in RCA laboratories the work goes on.
And just as soon as war conditions permit, RCA will supply fire-fighters with better radio equipment and service than ever before.
RCA Victor Division, RADIO CORPORATION OF AMERICA, Camden, N. J.

RCA

RCA EMERGENCY COMMUNICATIONS EQUIPMENT

"NATION-WIDE" Non-Freeze SOLUTION

One of Chief O'Leary's products

★ ***We GUARANTEE this solution to be non-freeze as low as 75° below zero!***

WHO ELSE CAN DO THIS?

★ ***Requires only ½ the quantity (calcium chloride) you have been using!***

★ ***The ONLY sensible non-freeze for booster tanks, Indian type pumps, extinguishers, pails, etc.***

★

HERE is a decidedly new, non-freezing solution that fire chiefs everywhere have been looking for for years. It will provide fire departments with a truly non-freezing solution down to 75° below zero. Use it for booster tanks, pump tanks, extinguishers and feel absolutely safe in recommending its use in open receptacles such as fire pails, fire barrels, etc.

This is a prominent, widely experienced fire chief's solution to a problem every fire chief has had for years in cold climates. Try it—you'll never go back to calcium chloride again.

FEATURES

- Remains Liquid at 75° below zero. (Chicago Testing Laboratory).
- 300% less corrosive than calcium chloride.
- Acts as flame-proofer and fire retarder.
- Dissolves quickly and easily.
- Dissolves in cold water.
- Saves handling, transportation and storage space.

SCALE

Amount of powdered non-freeze chemical needed to make one gallon of solution at following temperatures:

—30° F	2½ lbs.
—40° F	2¾ lbs.
—50° F	3 lbs.
—75° F	5 lbs.

Immediate Delivery F.O.B. plant or N. Y.

NATION WIDE FIRE PREVENTION AND EQUIPMENT CO. INC.

214 EAST 45TH STREET, NEW YORK CITY

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of September, 1943. These figures, compiled from the telegraphic reports, are based an estimates made at the time and are subject to later revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent losses in thousands of dollars.

Month Ending September 30	Losses in Thousands of Dollars
Elkhorn City, Ky.—One-fourth of business district destroyed	50
Muskegon, Mich.—W. J. Carl dept. store destroyed	50
Bellefontaine, Ohio—New York Central roundhouse and machine shops damaged	1000
Jacksonville, Tex.—Jacksonville Express Co. plant and cotton destroyed	100
Hoquiam, Wash.—Gray's Harbor Chair Co. destroyed	50
Springfield, Ore.—Guerrier Lumber Co. plant destroyed	80
Ridgefield, Wash.—Plant of Bratlie Bros. Lumber Co. damaged	125
Minneapolis, Minn.—W. H. Barber Oil Co.'s warehouse destroyed	80
Los Angeles, Cal.—Ladder factory and cabinet shop, two houses and automobiles and trucks destroyed; several court apartments and garages damaged	50
Belmont, Mont.—Borden Milk factory damaged	80
Hamilton, Ohio—Warehouse and factory of the Sall Mountain Co., Rockdale, destroyed	170
Philadelphia, Pa.—Seven passenger cars, 1,500 pieces of baggage and large quantities of boiler and mail room equip. of Pennsylvania R. R. at Broad St. station bldg. destroyed	225
Pullman, Wash.—Hangar, six planes and private pullman, Moscow Airport destroyed	170
Oakland, Cal.—Bldgs. damaged at 1808 and 1804 E. Twelfth St.	50
Louisville, Ky.—Kingham Trailer Co. damaged	170
Monroe, La.—West Monroe Gin Co.'s No. 2 cotton gin destroyed	60
New Orleans, La.—Cabin cruiser, Eva, damaged	60
Mount Airy, N. C.—Bldg. housing Mount Airy Mantle & Table Co. destroyed	170
Nashville, Tenn.—Bldg. & stock of Reuben's furniture store destroyed	60
Reynolds, Ga.—Cotton gin, seed house and several bales of cotton of C. H. Neisler destroyed	125
Cambridge, Mass.—Double apartment block, one bldg. known as the Regent Apt., destroyed	170
Prineville, Ore.—Pine Products Corp. plant destroyed	60
Roxbury, Mass.—Central Fuel Co. coal yard, Albany Salvage & Wrecking Co. yd. and several homes damaged	130
Oroville, Cal.—The Butte County Citrus Assn. Packing plant destroyed	50
Hazlehurst, Miss.—Warehouse of the Mississippi Compress Co. destroyed	170
Union City, N. J.—Holy Family Parochial School damaged	170
Baker, Ore.—Orpheum theatre destroyed	60
Brandon, Vt.—Two three-story wooden blocks at Center St. destroyed	170
Truro, Nova Scotia—Main factory of Consolidated Lumber & Milling Co. destroyed	50
Bangor, Pa.—Furniture store owned by Harold N. Hough destroyed	80
Roanoke, Ala.—The Roanoke Cafe, Harper's 10c store and the Griffin Hardware Co. damaged	80
Augusta, Ark.—The H. O. Woody gin at McClelland destroyed	50
Chicago, Ill.—One story garage of Chrispen's Truck Lines damaged	50
Greenville, Tenn.—Trailer-truck on the Asheville Highway damaged	50
Nashville, Tenn.—Two-story factory warehouse of Tennessee Enamel Mfg. Co. destroyed	250
Port Townsend, Wash.—Port Townsend H. S. destroyed	50
St. Boniface, Man.—Two bldgs. occupied by the Prairie Rendering Co., Ltd., and the Western Rawhides, Ltd., destroyed	50
Atlanta, Ga.—Faith Hall at Oglethorpe Univ. destroyed	50

Alburnett, Ia.—Wooden frame elevator bldg. operated by Farmers Elevator Co. destroyed 50
Reading, Ohio—Four store warehouse and office bldg. of Nivison-Weiskopf Co. destroyed 80
Rock Springs, Wyo.—The Sweetland coal mine damaged 50
Los Angeles, Cal.—Gar Wood Industries, Inc. plant destroyed; loss includes nine trucks, one crane, several winches and dump bodies 80
New Haven, Conn.—Four-story warehouse of the Yale Cold Storage Corp. damaged 400
Oxford, Neb.—Jerpe Comm. Co. poultry house destroyed 60
Astoria, Ore.—Trolling boat Swan, destroyed 50
Portland, Ore.—Radio station studios KGW and KEX destroyed 60
Oroville, Cal.—Dreisbach Mill & Lumber Co. plant near Clipper Mills destroyed.. 50
Toledo, Ohio—Eagle Run, Nye Rubber Co. plant, Erie R. R. freight warehouse, Lafayette Cafe, five automobiles, garage, eighteen oil railroad cars and twenty-four merchandise filled freight cars destroyed in No. 1 plant of A. L. Garber Co. 250
Somerset, Pa.—Rockwood High School damaged 50
Missoula, Mont.—American Crystal Sugar Co. plant damaged 50
Pasadena, Cal.—Fishbeck Awning Co. plant damaged 50
Pensacola, Fla.—Gilmore Jewelry & Furniture Co. bldg. damaged 125
Fall River, Mass.—Hotel Mellin destroyed 200
Columbus, Ohio—Bldg., garage and storage room of Alwood Florist Co. damaged... 50
Frederick, S. D.—Osborne-McMillan elevator destroyed 50
Toledo, Ohio—Grease mfg. plant of Fiske Bros. Refining Co. destroyed 300
Tamaqua, Pa.—The B. H. Dreher lumber yard and adj. stores of the C. F. Keiser Flour & Feed Co. destroyed 80
Morrilton, Ark.—Western Auto store in Brooks bldg. and other stores damaged.. 50
Portland, Ore.—Gevurtz Furniture Co. damaged 50

Radio Control Aids Firemen

In the first major blaze battled by radio control, four fire departments cooperated in extinguishing flames which blackened 750 acres near Nichols and Clyde, Cal., and burned for four hours.

The Walnut Creek, Concord, Martinez and Clyde fire departments responded at 3:30 p.m. for a grass fire which broke out in a gully near the Clyde water tanks above the Clyde Hotel. They worked under radio short wave orders from Mt. Diablo Fire Chief Allan Vargus, until the fire was out at 7:30 p.m.

Sheriff's radio handled 170 radio calls, while firemen battled the blaze which spread rapidly and covered a distance of two miles in fast time.

The ContraCosta County set-up of which the above is a part is as follows: The County and City fire chiefs have a central fire dispatcher, Chief Fred Kaiser of the Martinez Fire Department. A mutual aid program has been set up for the County, which works in a manner similar to that in the metropolitan cities on assignments. When assistance is needed, by two-way radio through the County Sheriff's office various departments are assigned to cover in at the scene of the emergency call or move in to cover departments or districts with suitable equipment to stand by.

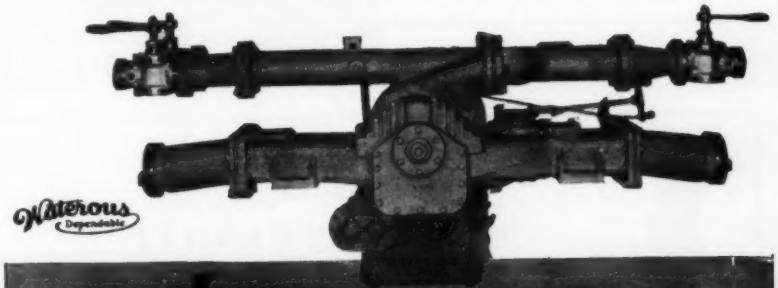
When apparatus and manpower are dispatched to any given point, the local fire chief has jurisdiction over them and assigns all equipment to spots where it is need to assist. This is set up under the State "Emergency Act" and the County Board of Superviors have appointed as County Co-Ordinator of Emergencies, Lester J. Bowers.

CHARLES SWEENEY, Chief
Antioch, Cal., Fire Department

HARD HITTING STREAMS

Large waterways, easy curves, high efficiency, and liberal surplus capacity are combined WATEROUS features that produce solid, hard hitting fire streams. WATEROUS builds heavy duty fire pumps that you can depend upon.

WATEROUS COMPANY, ST. PAUL, MINNESOTA



WATEROUS
CENTRIFUGAL-ROTARY
FIRE PUMPS

For Emergencies . . .
EQUIP RESCUE CARS with LIGHTNINGPAK HEAT PADS

INSURE HEAT for FIRST AID

•

LIGHTNINGPAK gives 160° of heat in 30 seconds

•

When first aid treatment demands *quick heat*, Lightningpak is the answer. It leaps into action with only two spoonfuls of cold water. Most effective in treating shock. Lightningpak gives 160° of heat in only 30 seconds—maintains it as long as 10 hours.

This flexible heat pad molds itself to any position. Convenient body-ties keep the heat "on the spot" even when patient is being moved. Only 6½" x 8½", can be stacked in rescue car in minimum space. Lightningpak has already proved itself with Uncle Sam's fighting forces as a vital piece of "life saving" equipment. Write today ➡

LIGHTNINGPAK
95 Chapel St., Newton, Mass.

LIGHTNINGPAK PRICES TO FIRE DEPARTMENTS
Lightningpak Complete $8.00 per dozen
Heat Unit Refills $3.60 per dozen
Samples gladly sent at per dozen price.

EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

Write for the FACTS.

EDDY VALVE CO., Waterford, N.Y.

Practical Training

(*Continued from page 632*)

gained headway in a structure and it is not possible to operate from fire escapes or other points of vantage, streams must be directed from the street or from aerial ladders using pipe holders. Such streams are also effective for protecting exposures, that is, structures exposed by the fire burning in neighboring buildings.

Q. What are the relative advantages and disadvantages of large and small streams?

A. The large streams are difficult to handle and equally difficult to shift when in operation. They have, however, greater extinguishing effect than smaller streams, and greater range. Where a small stream might spray upon being directed from the street into a fire, and thus lose its effectiveness, a large stream will retain its solidity for a greater distance and will thus reach the seat of the fire and do its effective extinguishing work.

Small streams, while possessing less extinguishing effect, and less range, are better for inside operations because they are highly mobile and can be moved from point to point without difficulty. This enables the fire fighters to approach the seat of the fire and do effective work. With the smaller stream it is possible to hunt out fires in individual rooms, closets, partitions, pack-lofts and other concealed spaces.

Each type of stream has its own use at which it is most effective.

Hangar Destroyed by Fire

The main hangar at the Falmouth, Mass., Airport being operated by the Civil Air Patrol, was destroyed by flames originating from an explosion on September 11.

Four planes inside the rambling wood and galvanized metal structure were lost.

Firemen from the Falmouth, Camp Edwards and Bourne fire departments fought the blaze, assisted by one piece of apparatus from the State Forest Fire Patrol.

Absence of a water source made futile the firemen's efforts to halt the fire inside the hangar, but they succeeded in saving the airport's administration building which edged within about sixty feet of the burning structure.

The fire was believed to have started when an employee threw a switch on an electrically operated gasoline pump, a spark igniting the fumes.

When streams of water were turned on the burning C. A. P. planes, the liquid "touched off" in succession two magnesium bombs attached to the undercarriage of each aircraft. These blasts generated the metal containers into masses of molten metal which were blown in all directions, increasing the jeopardy of the fire fighters.

Firemen utilized most of their scant water supply to drench the administration building and several small nearby buildings which were threatened by the main blaze. Shovel brigades covered the roofs and other parts of the smaller structures with sand.

Deputy Chief George G. Ferris of the Falmouth Fire Department was in charge of fire fighting.

CLASSIFIED ADVERTISING

Bids Wanted, For Sale and Help Wanted $5 *per inch. Position Wanted,* $2.50 *per inch*

WANTED

Jobbers to sell Morning Pride Firecoats, with Wing Freedom Sleeves, Chest Protector, Wool Wristlets, Synthetic Rubber. Write Morning Pride Mfg. Co., 1986 Home Ave., Dayton, Ohio.

FOR SALE

1 used upright Siren, 110 or 220 volts, single phase General Electric, 3 H.P. motor, 36000 R.P.M. Price $200 F.O.B. Cranbury, N. J. Harry Cross, Sec., Cranbury Fire Company, Cranbury, N. J.

FOR SALE—USED EQUIPMENT

Used Equipment: 2½ gal. wet chemical Fire Dept. type extinguishers with shut-off nozzles; various brass equipment; 2½" dj pinlug couplings NST; some new equipment. What do you need? Denegar Mfg. Company, 317 Allen Ave., Allenhurst, N. J.

FOR SALE

One Seagrave 85-foot aerial ladder truck with spring hoist. This truck is about 25 years old, but the wooden ladder is only about 9 years old. This truck and ladder should be of value to anyone with a similar truck.

One practically new American LaFrance 1000 G.P.M. rotary type fire pump, complete with pump transmission, but *without power unit.* Make us an offer.

City of Lynchburg, Lynchburg, Virginia

FOR SALE

Fire Department Supplies for Sale—Several used 5 H.P. sirens, sirens with flashers, nozzles, fog nozzles, wrenches, hose and ladder straps, siamese, extinguishers, charges, lights, generators, hose, booster hose, gas masks, helmets, First Aid equipment. For information write Box No. 30, c/o FIRE ENGINEERING, 24 W. 40th St., New York 18, N. Y.

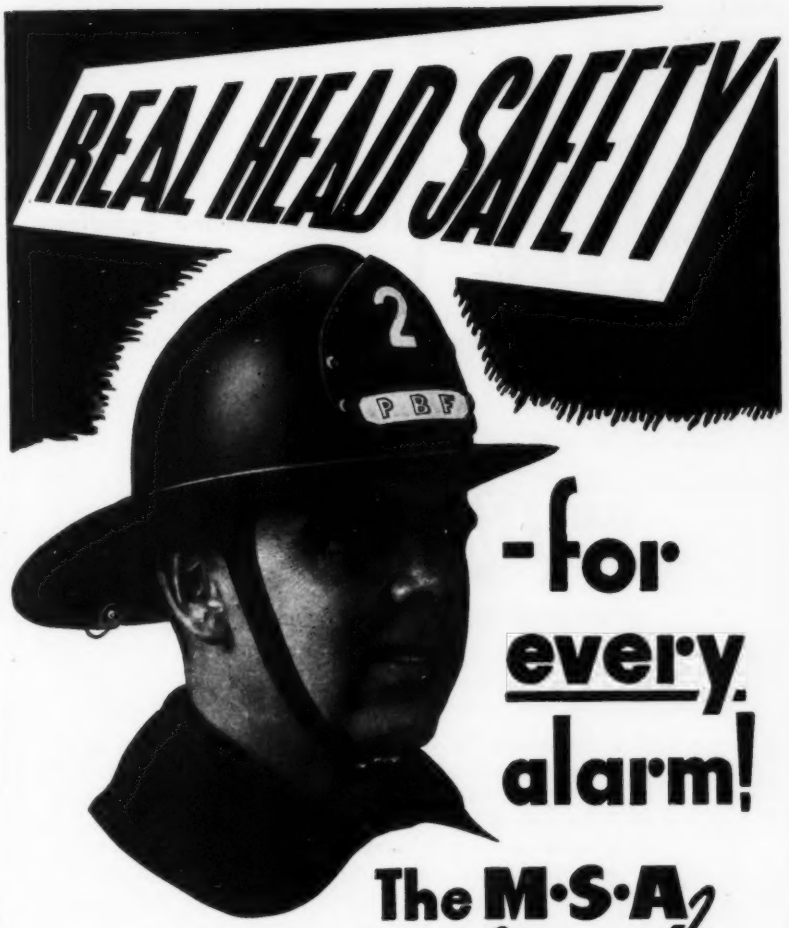
State Legislature Asked to Establish Fire District

Following approval of the Massena, N. Y., town board to purchase a new fire truck for rural fires, Assemblyman Allan P. Sill of the New York state legislature has been requested to present a measure which will enable the town to establish a fire district.

The move was taken in the hope that the legislature would waive an existing law which requires approximately 50 per cent of the town voters to sign a petition in order to set up the fire district. The new truck will be used in place of the village apparatus which has previously covered the area to be included in the proposed district, comprising parts of Louisville, Brasher and Norfolk. Massena township itself is comparatively small in relation to the surrounding towns.

Massena village is the home of two of the largest aluminum plants and a scene of extensive war work activity. Present village apparatus is heavy and unsuitable for rural use. Chief Harlan Sharlow is working on details for equipment of the new truck.

SANFORD D. DEWEY.



The M·S·A *Streamlined* FIREMAN'S HELMET

PROVIDING top safety, comfort and durability on normal fire-fighting assignments everywhere, this new and widely-popular M.S.A. Helmet qualifies on every count for the added demands of wartime service. The hazards of falling or flying objects, chemicals, water and live wires—the multiplied hazards of explosion—and incendiary-created fires are countered by strong, non-softening, electricity-proof laminated bakelite construction. *Comfort* on-the-job is assured by light, well-balanced design and special features. For the facts—write for Bulletin No. DX-5, or ask for a demonstration!

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS and MEADE STS. . . . PITTSBURGH, PA.
DISTRICT REPRESENTATIVES IN PRINCIPAL CITIES

is { loss
loss *in needed buildings and equipment*
loss *in man power through injuries and shut downs*

ALBI-firepel "S"
REG. U. S. PAT. OFF.

protects against fire hazard

It is recognized by Industry, the Army and Navy. It has proved its worth after exhaustive tests by UNDERWRITERS LABORATORIES, INC. and in the private laboratories of industrial research. Its ease of application — all that is necessary is to brush or spray it on the combustible surface — makes it possible to treat all combustible interior building surfaces and framing in structures ranging from the hundred dollar garage to the million dollar war plant.

Write for complete information on the only "labeled" fire retardant coating material available to the war plant, the civilian plant and the private dwelling.

THE ONLY FIRE RETARDANT COATING MATERIAL LISTED AND APPROVED BY Underwriters' Laboratories Inc. FOR PROTECTION AGAINST FIRE HAZARD

Albi Firepel Corporation
9 Park Place • New York 7, N. Y.

Have You Any Idle Used Fire Equipment For Sale?

• Classified advertisements in FIRE ENGINEERING bring results because they are read by the nation's leading municipal and industrial fire chiefs and fire officials. Used fire apparatus, equipment and supplies are sorely needed to-day.

• Rates are low — only $5 per column inch and if three or more consecutive insertions are run — a discount of 10% is allowed.

FIRE ENGINEERING
24 West 40th Street **New York 18, N. Y.**

WAR FARE

Alarms and Discussions Clipped and Culled from the War News of the Day, of Interest to the Fire Service.

Landis Leaves O C D

James M. Landis, Director of the Office of Civilian Defense, Washington (D. C.), has been appointed by the President to take charge of all American economic operations in the Middle East, giving him the unusual if not unprecedented status of Minister with equal jurisdiction over all the countries in the Middle Eastern areas. The White House, eulogizing his work in building civilian protection for the nation, did not indicate who would become his successor.

* * *

Stirrup Pumps Save Seven Homes

Reports from Macon (Ga.) have it that seven homes in that city have been saved from possible destruction by fire within past three months by the use of stirrup pumps assigned to local defense councils. Four hundred of the pumps were distributed to air raid wardens, auxiliary firemen and fire guards, who promptly used them when the emergency arose. Most recent job done was that of Nash Everett, a negro warden, who saved a home by controlling a threatening large grass fire.

* * *

Auxiliaries Do Their Stuff

Auxiliary firemen have won applause for their work in a number of recent disasters. At the wreck of the Congressional Limited where 80 were killed, they assisted wardens, and regular firemen and policemen, in rescue work, controlling crowds and in preventing fire when cutting torches were used. In the Grand Junction (Colo.) railroad explosion they helped the regular firemen in preventing spread of fires, evacuating people and preventing panic. At Kearny (N. J.) when Congoleum-Nairn, Inc., plant blew up, the auxiliaries worked with the Kearny, Newark and other firemen who responded on mutual aid calls. . . . They performed well also in the 8-alarm Broad Street station fire in Philadelphia (Pa.), many of them "covering-in" to protect sections of the city left uncovered by the response of so many regular companies to the fire.

* * *

Hot Off the Ticker

A military powder magazine exploded at Niebla (Northern Spain), killing 15 persons and injuring "many others." . . . Twenty-five to thirty employees of the Habirshaw Wire & Cable Company, Yonkers (N. Y.) were overcome by chlorine gas, seven seriously enough to require hospitalization. When Assistant Chief William Garvin arrived, on an alarm, he as well as Police Captain Charles Ward were refused admittance by the plant. Mayor Barnes, also civilian protection director of Yonkers, was likewise refused admittance. . . . Two plane spotters at Beverly (Mass.) spotted a fire on a pier two miles away, turned in alarm and prevented what might have been a serious blaze. . . . Volunteer auxiliary firemen of the Duval County-Jacksonville Defense Council

got good workout when Barrett Food Products, Inc., plant caught fire. Chief Clancey reported the volunteers did a splendid job of assisting the regulars. . . . Massillon (O.) Citizens Defense Corps got a baptism of fire when two industrial plants were burned with loss of $750,000. Fire companies joined with local force and auxiliaries from Canton, Navarre and Dalton (O.). . . . Auxiliary firemen and policemen won praise for their work at scene of Boston & Maine passenger train derailment south of Nashua (N. H.). . . . First lieutenant Otto Loesch, 28, was killed when his Army fighter plane crashed into a house in Philadelphia. . . . According to the Huns, a serious shortage of "cultural" targets in New York makes bombing reprisals "impossible." . . . Air raid sirens were sounded in St. Joseph (Mo.) to signalize war bonds drive. . . . Several hundred Waves, training at Hunter College, New York City, were roused from dormitories for routine fire drill that proved more realistic than expected. Seems one of girls assigned to nearby fire-alarm box misunderstood her orders and pulled the lever, bringing full alarm assignment of the Brothers. . . . In Everett (Mass.) 12-year-old Burton Duncan watched auxiliary firemen drilling. Not long after he discovered basement fire in his home, procured stirrup pump, controlled fire until firemen, summoned by neighbor, arrived. . . . Spectacular fire in Quebec (Ont.) destroyed 10,000 gallons of gasoline and car of flour and other merchandise.

* * *

Red Car—Red Face!

The Village of Larchmont (N. Y.) seems to have a penchant for making the news headlines. It may be remembered it was Larchmont which petitioned WPB for some wire to complete hookup of air raid sirens, only to be told that the Village could have it **"after the war."** Now the place has made nationwide publicity through its fire chief Alexis B. Cuneen, who, as has been previously noted here, is also chief of the Ft. Slocum (N. Y.) fire department.

It all came about through the Chief taking the red municipal fire chariot to the International Association conference in Chicago. The trip entangled the chief with the OPA rationing boards as well as the Village fathers. However, the Trustees, following a meeting at which the chief was eulogized by some of the auxiliaries he had trained, forgave him.

* * *

Death Strikes from the Air

ALEXANDRIA, LA.: Two Flying Fortresses crashed into Gulf of Mexico after colliding in the air. One plane exploded. Twenty-two believed dead.

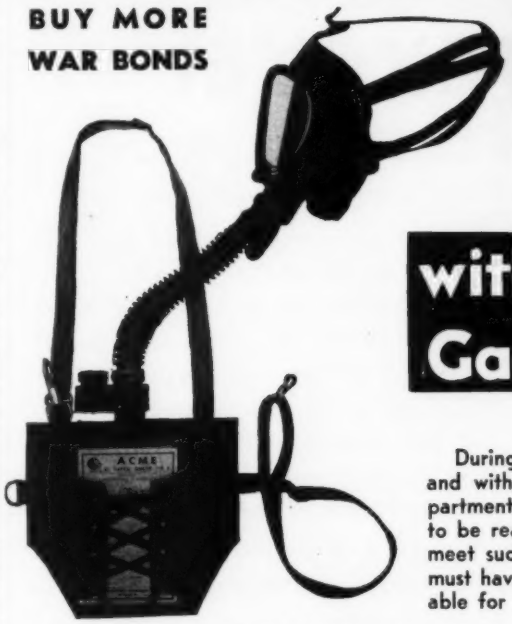
SAN DIEGO, CAL.: Three children and an Army pilot were killed when a P-38 interceptor, after hitting another plane in the air, crashed into a duplex apartment, exploded and hurled wreckage over a 100-yard area. The children were playing in the duplex when plane crashed, sending flames hundreds of feet in air.

DYERSBURG, TENN.: At least 11 airmen were killed when three Flying Fortresses from Dyersburg Army Air Base crashed over one weekend. One of big bombers went down in flames. Some of crews parachuted to safety. One bomber crashed in flames at Dresden, Tenn. No details of fire available.

RIO DE JANEIRO: A three-motored

FIRE-FIGHTING IN WAR TIMES with ACME Gas Masks

BUY MORE WAR BONDS



During these critical times of war and with limited personnel, fire departments everywhere are required to be ready for all emergencies. To meet such calls, all fire departments must have sufficient equipment available for day and night fire fighting.

In all parts of the United States and many foreign countries, Acme FULL VISION All-Purpose Type FD Gas Masks are providing firemen with a type of equipment highly important for their Safety and Comfort. This is particularly true where firemen are required to enter smoke-filled buildings where the interior is most likely to be unfamiliar.

In this respect the FULL VISION, provided exclusively with Acme wide, flat Safety Glass Lenses, enables the firemen to have Non-Distorted FULL VISION to all sides, as well as downwards. The Acme Mask is easily adjusted to fit any face comfortably, making it gas- and smoke-tight.

Protection is provided by the Acme FULL VISION All-Purpose Type FD Gas Mask and Canister against Carbon Monoxide, Acid Gases, Organic Vapors, Toxic Smokes, and Fumes.

Write for Prices and Literature TODAY

ACME PROTECTION EQUIPMENT COMPANY, INC.
Manufacturers
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SIRENO
SINCE 1908 — THE PIONEER COMPANY
EXCLUSIVELY MANUFACTURING SIRENS
PRECISION MADE • LONG LIFE • UTMOST IN DEPENDABILITY
THE SIRENO COMPANY

You can count on BUCKEYE!

Fig. 930
Junior Type Roto-Ray

Whatever the emergency, you can count on Buckeye Equipment to do its part—effectively.

You can get there *quicker* and *safer* with Roto-Rays and Exhaust Whistles.

In fighting fires you can have a well placed confidence in a variety of Buckeye Shut-off Nozzles that *will not leak;* in Hydrant Gate Valves; and in other miscellaneous equipment. And, back in the repair shop, the Buckeye Expander — the choice of the skilled master mechanic—is doing its job quickly and efficiently.

In a word, *dependability* describes the entire line of Buckeye Fire Department Accessories.

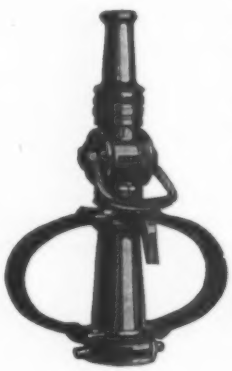


Fig. 900
2½" Shut-off Nozzle

BUCKEYE IRON & BRASS WORKS
324 East Third Street
Dayton 2, Ohio

Fig. 935
Junior Chiefs' Car Whistle

BUCKEYE
Fire Department Accessories

A BADGE *to be proud of* NOW *more than ever* BEFORE

Now—because of the Government's prohibition of the use of nickel, brass, copper, nickel plating, and chromium—we are making these badges and insignia in sterling silver, sterling silver gold plated, rolled gold on sterling silver and 14 karat gold.

Today—for just a little more, you get a sterling silver Braxmar Badge—without doubt the best badge you can buy anywhere.

The blue covered catalog is the latest published but write for our new price list, effective July 29, 1943. Only prices in the catalog on 14 karat gold items are still in effect. All auto plates are discontinued for the duration.

C. G. Braxmar Co., 242 W. 55th St., N. Y.

BRAXMAR BADGES

Standard for over 60 years

Brazilian airliner struck a Naval Academy building in a takeoff, killing 18 of 21 persons aboard.

BRIDGEVILLE, DEL.: An Army fighter plane crashed near here, exploded and started a forest fire which spread over half mile area before it was controlled. Pilot was killed. Explosion, heard for miles, drew more than a thousand persons to scene, blocking roads.

FORT WORTH, TEX.: Two four-engine bombers crashed and burned after a collision, killing seven men. Luckily crash occurred in sparsely settled area.

NORFOLK, VA.: Three Navy men and a colored boy died, with another boy badly burned, as result of crash of a Navy land plane near Manteo (N. C.). The children were walking in wooded area when plane fell on them and burst into flames.

ERIE, PA.: Two Civilian Air Patrol flyers were killed when their plane, one of four taking part in air-raid precaution demonstration, crashed into a Victory garden in residential section. Luckily, no fire ensued.

COLUMBUS, O.: Four officers and an enlisted man were killed when a four-engined bomber crashed into a farmhouse and burst into flames. The plane clipped off tree tops, sliced off half a bedroom of house.

SHREVEPORT, LA.: Six members of crew of a medium bomber were "presumed lost" when plane crashed and burned near Kirbyville (Tex.)

* * *

Railroads Take Punishment

The war effort got further setback during past month through epidemic of train wrecks involving both passenger and freight crackups. Worst of these, of course, was crash of Congressional Limited, Pennsylvania R. R.'s best train from Washington to New York. Eighty dead, scores seriously injured. . . . In another Pennsylvania railroad wreck (Altoona, Pa.) an engineer was killed when two freight trains and an empty passenger train were derailed. Wrecks on the Erie and Long Island Railroad killed several others. An explosion blew boiler apart, derailed part of famous New York Central Twentieth Century Limited, killing enginemen. Eleven were killed in a train-bus grade crossing tragedy near Aldershot (Ontario).

Volunteers Needed for Forest Fire Fighters Service

A drive to enroll both men and women women volunteers into the newly organized Forest Fire Fighters Service of Civilian Defense recently was gotten under way in California under direction of Wallace I. Hutchinson, State Coordinator.

Both men and women are needed for fire fighting, special behind-the-lines jobs and fire prevention educational work, Hutchinson said, adding that California is entering the three most dangerous months of the fire season.

"Last year good, patriotic Californians started some 5,000 fires in our fields and forests. Such carelessness in wartime, when wood and food crops are critical materials, is as bad in effect as deliberate sabotage," he said.

This season's record, to date, is more than 2,000 forest, brush and grain fires, involving more than 100,000 acres, he said.

BOB GREENOCK.

Manufacturers' Announcements

(*Continued from page 652*)

Improved Dry Chemical Fire Extinguishing Agent

The DuGas Engineering Corporation, Marinette, Wisconsin, announces the development of an improved dry chemical for use in their dry chemical fire extinguishers. The new dry chemical, known as "Plus-Fifty DuGas Dry Chemical," is now available from all DuGas distributors without advance in price and does not require a priority because critical materials are not used for its manufacture.

Practical fire tests have shown the new dry chemical to be a much more effective extinguishing agent than the dry chemical previously used.

The long effective range of the stream has been retained and the new dry chemical hangs in a cloud over the fire area, providing a greater smothering action and reducing flashbacks.

The new DuGas dry chemical is approved by the Underwriters' Laboratories and the Factory Mutual Laboratories.

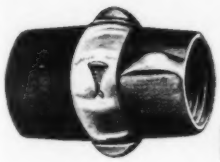
General Safety Seal

A device to provide protection against fire sabotage is now available from the General Detroit Corporation, 2272 East Jefferson, Detroit 7, Mich., manufacturers of fire fighting equipment. Known as the General Safety Seal, it is designed to prevent fire extinguisher tampering or clogging and is offered in models to fit the three standard types of extinguishers.

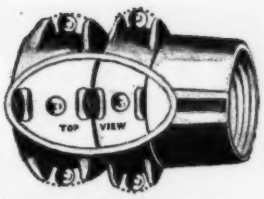
Foam and soda acid extinguishers are protected by a stitched envelope which slips snugly over the hose and fastens around the control valve. Vaporizing liquid extinguishers are fitted with two caps, one covering the pump end and the other protecting the nozzle. Carbon dioxide extinguishers are guarded by a cup-type envelope which fastens tightly over the nozzle horn. All protective envelopes or caps are securely held in place by a tamper-proof wired seal. They cannot be removed or the extinguisher used without breaking the seal. Thus the extinguisher cannot be tampered with or become clogged without warning, and the danger of explosion is reduced.

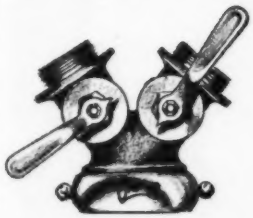
Exhibitors at the I. A. F. C. Conference

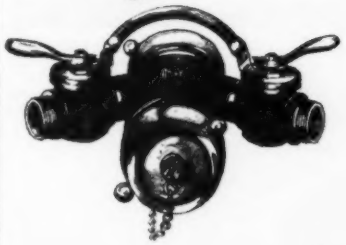
Exhibitors at the annual conference of the International Association of Fire Chiefs, held at the Palmer House, Chicago, Ill., on August 31-September 3, included the following: Elkhart Brass Manufacturing Company, Elkhart, Ind.; Duo Safety Ladder Company, Oshkosh, Wis.; U. S. Office of Civilian Defense; Mack Manufacturing Company, New York, N. Y.; John Bean Manufacturing Company, Lansing, Mich.; FIRE ENGINEERING, New York, N. Y.; E. & J. Manufacturing Company, Glendale, Cal.; D. B. Smith & Company, Utica, N. Y.; The Gamewell Company, Newton Upper Falls, Mass.; Rockwood Sprinkler Company, Worcester, Mass.; Waterous Company, St. Paul, Minn.; Mine Safety Appliance Company, Pittsburgh, Pa.; Cardox Corporation, Chicago, Ill.; Morning Pride Manufacturing Company, Dayton, Ohio; J. H. Emerson Company, Cam-



TRUMPET FIRE DEPARTMENT SUPPLIES







The Wooster Fire Trumpet on any product for Fire Department use is your best guarantee of QUALITY - DURABILITY and Performance. Such equipment will improve the efficiency of your department and afford greater protection for your men, and property.

In the interest of the war effort WOOSTER BRASS COMPANY has expanded its facilities over 800%. This expansion of equipment will enable us to greatly increase the efficiency of our post-war products to a point never attained before.

WHEN YOU SPECIFY PRODUCTS CARRYING THE "TRUMPET" TRADE-MARK, YOU CAN BE SURE YOU HAVE THE LATEST AND BEST IN ENGINEERING DESIGN. THE RESULTS OF OVER 30 YEARS' EXPERIENCE.

- SOME WOOSTER PRODUCTS -

GUARD LUG COUPLINGS
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ADAPTERS
FIRE MIST NOZZLES
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MANY NEW ITEMS FOR POST-WAR PRODUCTION

HOSE BRASS GOODS WB LINE THE WOOSTER BRASS Co. WOOSTER, OHIO

THE WOOSTER BRASS COMPANY

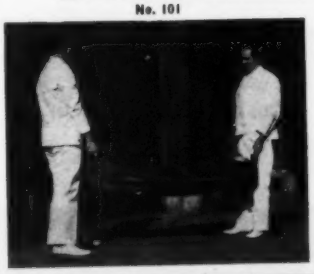
Fire Equipment of Distinction

WOOSTER, O. J. C. SCHELLIN, Pres.

Reeves

FLEXIBLE STRETCHERS

No. 101



Every casualty, no matter how slight or how serious, can be made worse by rough, improper handling. Reeves Stretchers can be used in the most inaccessible places.

If your dealer cannot supply you, write to:

A. SMITH & SON, Inc.
1237-39 RIDGE AVE.
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$14.50

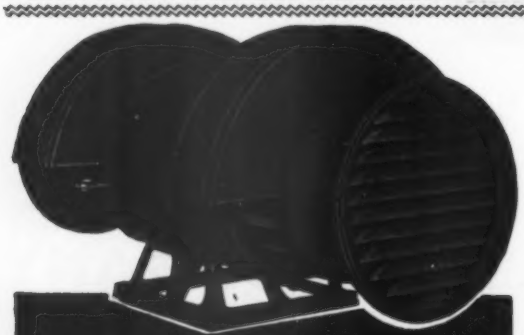
Fire Stream Data at your Finger Tips

Illustration is one half actual size.

Nozzle Flow on 1/4" to 2" Tips
and
Friction Loss in 3/4" to 2 1/2" Hose

Obtain your calculator from
the BARTON-AMERICAN representative
in your territory

AMERICAN-MARSH PUMPS, INC.
Battle Creek, Michigan, U.S.A.



STERLING MODEL "M"
GENERAL ALARM SIREN
You Can Depend On It *ALWAYS*

The Sterling Model "M" Siren, while primarily built for fire alarm signals, is particularly well adapted for the emergency duties attendant on National Defense.

This sturdy public alarm with its shrill, penetrating and distinctive vibrations meets and solves both problems.

Rugged and dependable — it is built to deliver 24-hour service. Its performance has never been equalled by any of the other sirens on the market today!

Write for detailed literature

STERLING SIREN FIRE ALARM CO., Inc.
55 Allen Street Rochester, New York

bridge, Mass.; Bi-Lateral Fire Hose Company, Chicago, Ill.; Circul Air Corporation, Jackson, Mich.; Ward-La-France Truck Division of Great American Industries, Inc., Elmira, N. Y.; Atlas Safety Equipment Company, New York, N. Y.; Eureka Fire Hose Division of U. S. Rubber Company, New York, N. Y.; General Detroit Corporation, Detroit, Mich.; A. Smith & Son, Inc., Philadelphia, Pa.; American-Marsh Pumps, Inc., Battle Creek, Mich.; Pyrene Manufacturing Company, Newark, N. J.; Hanley Engineering Service, Prospect, Ohio; Akron Brass Manufacturing Company, Wooster, Ohio; Anderson Fire Fighting Equipment Company, New York, N. Y.; Oren Fire Apparatus Division, Roanoke Welding and Equipment Co., Inc.; Buffalo Fire Appliance Company, Buffalo, N. Y.; Kerotest Manufacturing Company, Pittsburgh, Pa.; Bendix Westinghouse Automotive Air Brake Company, Elyria, Ohio; American District Telegraph Company, New York, N. Y.; American-LaFrance-Foamite Corporation, Elmira, N. Y.; and Dayton Fire Equipment Company, Dayton, Ohio.

Safety Seal for Fire Extinguishers

The Fredriksen Service Company of 605 W. Washington Boulevard, Chicago, Ill., has announced the production of a safety seal for fire extinguishers.

This Safety Seal assures readiness of any standard 2½-gallon fire extinguisher. It is a patented envelope which slips over the hose and around the extinguisher top. It is secured in position by a lead wire seal. On the envelope are spaces for records of fillings and inspections. To put the extinguisher into action it is only necessary to tear the envelope from the hose and proceed as usual.

The Safety Seal fits so snugly to the extinguisher that it matters little if the extinguisher is on the floor or on a wall bracket.

Army-Navy "E" Presented to Rockwood Sprinkler

The Army-Navy Production Award was presented to the Rockwood Sprinkler Company at a presentation ceremony in the plant in Worcester, Mass., on September 21.

Change in Firm Name

The name of the Engineering Service Company, P. O. Box 491, Jacksonville 1, Florida, has been changed to the Southeast Engineering Company, it has been announced by officials of the company.

New Generator Developed

The addition of a complete line of newly designed, two pole, Kato Rotary Konverters has been announced by the Kato Engineering Company, Mankato, Minnesota.

These new improved designs are available in 225 and 350 volt-amperes continuous load capacities at 3600 r.p.m. with 40 degrees C temperature rise. Available for changing 32, 110 or 220-volts direct current to standard 110-volts, 60-cycle, A. C. for operating standard A. C. operated machines, etc., in locations where direct current only is available.

The units are designed to keep radio

interference down to a minimum and to provide best possible wave forms to facilitate all phases of radio filtering. When converters are to be used for operating sensitive radio and electronic equipment, it is quite often necessary that special filtering device be used. Special filter may be furnished which is contained in sheet metal base upon which converter is mounted.

Yockers California State Fire Marshal

Joe R. Yockers has been appointed to the position of State Fire Marshal to succeed Jay W. Stevens, who had temporarily been appointed on January 6, 1943, to reorganize the Division of Fire Safety and to serve until a suitably qualined man could be obtained.

At the time of his appointment, Chief Yockers was serving as a Lieutenant in the U. S. Navy, Security Division, with headquarters in Los Angeles. Governor Earl Warren by personal request to the Hon. Frank Knox, Secretary of the Navy, was able to obtain Chief Yockers release and he was granted an honorable discharge to accept the position.

Chief Yockers' knowledge of the fire service has been acquired by many years of experience gained by actual performance of all phases of duties incidental to fire prevention, fire extinguishment and suppression. He started as a hoseman in the Alhambra Fire Department in 1924. Three years later he was promoted to the rank of Captain and in September of the same year to Battalion Chief and Superintendent of Fire Alarms. This position he held until April, 1932, when he resigned to accept a position as Assistant State Fire Marshal as a result of having successfully passed a State Civil Service competitive examination. After eight years' experience in this capacity. he again passed a Civil Service examination, this time a promotional one for the position of Deputy State Fire Marshal and was appointed in 1940 and placed in charge of the Los Angeles office. He remained in this capacity until he was commissioned a Lieutenant (j.g.) in the U. S. N. R., Security Division, in February, 1942. Shortly before receiving his honorable discharge to head the State's Division of Fire Safety, he was promoted to a full Lieutenant.

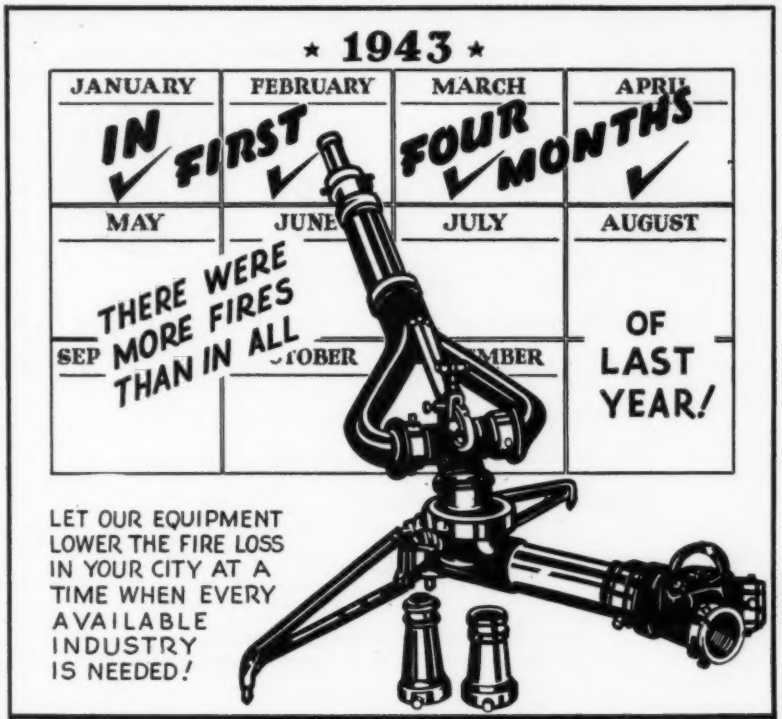
George Hill Chief of Taylor Township

George B. Hill of Dearborn, Mich., has been appointed fire chief of Taylor Township, Mich. He was a former member of the Dearborn Police Department and had taught the class of auxiliary firemen in the township for some time.

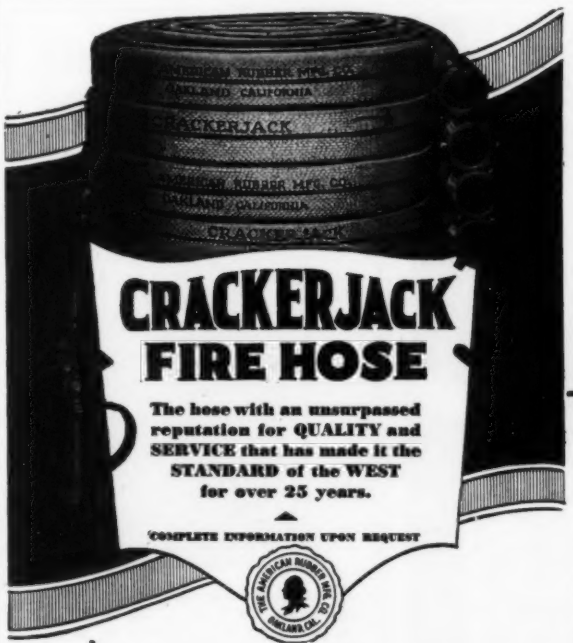
Chief Hill is a graduate in municipal fire administration and a graduate fire protection engineer.

While with the Dearborn Police Department, Chief Hill created and organized the police emergency squad. He built the equipment for the squad and was in charge of it for four years until he left the department.

Until his appointment in the township, Chief Hill was also Chief of Fire Protection, Michigan Wing Training Base, Civil Air Patrol.



SAMUEL EASTMAN COMPANY, Inc.
CONCORD, N. H.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FIRE HOSE
The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD of the WEST for over 25 years.
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Hundreds of Departments Re-Order!

The AMERICAN RUBBER *Manufacturing Co.*

Factory and General Offices:
PARK AVENUE and WATTS STREET, OAKLAND 8, CALIFORNIA

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PROMPT SERVICE AND REPLACEMENT PARTS AT REASONABLE COST

has been our policy for many years

Today, in spite of utmost concentration on our war production, we are still giving economical, efficient service, whenever necessary to keep Hale Fire Pumps on the job.

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Write today for the Catalog and Folders on the complete line of HALE PUMPS.

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

THE *New* WHEAT *Rechargeable Spotlight*

MODEL 158

2500 FOOT BEAM
25000 CANDLE POWER
1000 HOURS OPERATION

Critical Materials Reduced to a Minimum to insure Availability

FEATURES

★ Positive "non-spill" Construction
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★ Free use of Hands. Light carries conveniently on Shoulder Strap
★ Weighs only 92 ozs. complete
★ Simple to Charge and Water No need to take Lamp apart
★ Light can be Focused and Directed as Desired

WRITE FOR COMPLETE DETAILS

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MARLBORO, MASSACHUSETTS, U.S.A.

JANESVILLE QUALITY TURN OUT CLOTHING

Still Available

Our turnout suits are giving excellent satisfaction in most of the large fire departments throughout the U. S. and

THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON JANESVILLE QUALITY

Rubber and Duck Coats and Bunkers, Boots, etc.

JANESVILLE APPAREL CO.
JANESVILLE, WIS.

Chief Duren Succeeds Chief Haskins

Assistant Chief Ruben G. Duren of the Greenwood, Miss., Fire Department has been named Chief to succeed Chief G. T. Haskins who has retired because of injuries received in the line of duty.

Chief Ruben G. Duren

Chief Duren joined the department in December, 1931; was promoted to driver and pump operator in 1932; to captain in May, 1940, and to assistant chief in December, 1942.

Former Chief G. T. Haskins

Chief Haskins has been connected with the Greenwood Fire Department for the past twenty-two years, more than half of which he served as Chief.

The Chief's retirement is under the twenty-year service rule provided in the Firemen and Policemen's Pension and Disability Fund, but is actually the result of injuries received in the line of duty, when the Chief was gassed at a fire some months ago.

Firemen's Training School to Be Held

The fifth annual Provincial Firemen's Training School will be held at the University of Toronto, on November 17-20, under the auspices of the Dominion Association of Fire Chiefs and the Fire Marshal's Office.

Fyr-Fyter is saving millions of pounds of critical copper and brass for weapons of war in its production of Fyr-Fyter extinguishers for essential war needs. A new Fyr-Fyter 2½ gallon Foam Extinguisher is now built of hot galvanized steel with electrically welded seams. The inner container is also made of steel, porcelain-enameled inside and out. It bears the approval of the Underwriters' Laboratories and carries an AES A-1-B-1 classification.

Another new Fyr-Fyter Pump Tank Type Extinguisher is also built of hot galvanized steel. The pump is made of steel tubing, porcelain-enameled. It is available in 2½ and 4 gallon sizes. Approved by the Underwriters' Laboratories with an AES A-1 classification.

AVAILABLE ONLY ON PREFERENCE RATINGS

Like all extinguishers, these new Fyr-Fyters are available only on orders bearing preference ratings. When Victory is won, we will have an enlarged and improved line of extinguishers available for all civilian needs. Remember Fyr-Fyter. You will have obsolete, worn-out equipment you will want to replace as soon as the war is over.

THE FYR-FYTER CO.
Dept. 101, Dayton 1, Ohio

BUY WAR BONDS — ARMY E NAVY — Fyr-Fyter

Grease Compounding Plant Destroyed by Fire

Damage of $750,000 was caused by a five-hour fire which destroyed the main buildings of the Pure Oil Company grease compounding plant at Marcus Hook, Pa., Sept. 4. Thousands of barrels of high test aviation gasoline and other products in storage tanks nearby were threatened. Nearly all the plant's products are turned over to the armed forces.

Discovered shortly after 4 p.m., firemen soon gave up attempts to save the blazing building and turned their attention toward the threatened tanks of gasoline and oil. Smoke drifted down the Delaware river for five miles and there were brilliant flames of orange, green and blue, caused by sulphur which is used in the manufacture of the lubricants.

After a stiff battle fire fighters saved 10,000 barrels of high test aviation gasoline in the yard and 1,000 barrels of oil, ready for shipment, as well as tanks of both the Pure Oil Company and Sun Oil Company. Four loaded freight cars containing high octane gas were on a platform near the fire but were hauled to safety by a shifting engine dispatched by the Pennsylvania railroad.

An electric flash from a motor is believed the cause of the fire which soon spread to 750 gallons of oil used in the processing of grease. Despite the fact the building was of fireproof construction, the fire rode along the greasy floors and down elevator shafts and stairways.

Responding on the first alarm were volunteers of the Marcus Hook No. 1 and Viscose Co. Other volunteer companies came from Linwood, Trainer, Boothwyn and the Franklyn and Felton companies from Chester. Seventy-five Coast Guardsmen gave assistance and four fire boats were on the scene.

SANFORD D. DEWEY.

Lauber to Rejoin the National Board

Calvin G. Lauber has resigned as fire Marshal of the District of Columbia to rejoin the National Board of Underwriters, as a member of its engineering Department staff, it was announced recently by W. E. Mallalieu, General Manager.

Mr. Lauber became Fire Marshal of the District of Columbia on January 2, 1931, after he had achieved top marks in an examination which was taken by candidates at places throughout the United States. Prior to that time he had served as an engineer for the National Board for eleven years. Mr. Lauber received his engineering training in Pratt Institute.

Soldiers Help Fight Forest Fire

Aided by a detail of fifty soldiers, California State Division of Forestry crews recently fought a forest fire in the San Antonio Valley at the base of Mt. Hamilton, near San Jose, for three days before bringing it under control. State Ranger George Britton estimated 5,000 acres were burned over, all range land, including 2,000 acres in Stanislaus County. The valley is partly in Santa Clara County.

BOB GREENOCK.

M H

VALVES
HYDRANTS
and pipe line accessories

Practical firemen know the vital need of valves and hydrants that "work" when they are needed. M & H products are liked by municipal fire departments on account of their expert workmanship and highest quality materials. M & H Valves and Hydrants are dependable in an emergency.

A. W. W. A. HYDRANTS
Underwriters Approved

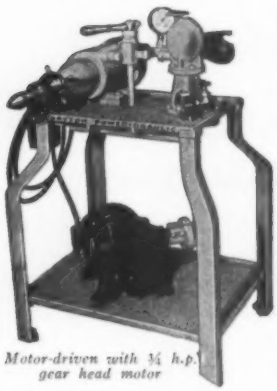
Conform to American Water Works Association specifications. Approved and listed by Underwriters' Laboratories and Associated Factory Mutuals. Well known and widely used for many years.

SPECIAL TRAFFIC MODEL (shown at right) is designed to yield at ground line under impact, repair being simply renewal of breakable bolts and breakable coupling on stem. Dry top, revolving head, easy to lubricate. High efficiency because barrel diameter not reduced and there are no working parts or obstructions in waterway.

VALVES: A. W. W. A. types, iron body, bronze mounted with double-disc parallel seat or solid wedge type. Non-rising stem, outside screw and yoke; or with sliding stem and lever. Also furnished hydraulically operated. Square Bottom type operates in any position. All are rugged and dependable, made of best materials with highest quality workmanship.

M&H VALVE
AND FITTINGS COMPANY
ANNISTON, ALABAMA

In Line with
NATIONAL DEFENSE
DAYTON POWERDRAULIC



Motor-driven with ¾ h.p. gear head motor

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Expands couplings from ¾" to 6" size.

Tests hose up to 700 lbs.

Extra attachment removes old expansion rings from old couplings. No manual effort needed.

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FOR THE PROPER CARE OF HOSE
MORE PRESSURE - LARGER MOTOR
ROOMIER WORK TABLE
REPLACEMENT SEGMENTS (ALL SIZES)
FOR ANY OLD HYDRAULIC EXPANDER

SEND FOR ILLUSTRATED BULLETIN
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FIREMAN'S UNIFORM CAPS
UNION MADE PROMPT DELIVERY

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Wentworth Fireman Caps are made of the Highest Quality Standard Materials available and by the Best Skilled Union Craftsmen in all the New and Standard styles. Our 47 years of experience and skilled workmen guarantee you AMERICA'S GREATEST CAP VALUE in all WENTWORTH FIREMAN CAPS.

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Write direct for latest circular and prices or see your local dealer.

WENTWORTH-FORMAN CO., INC.
578b Washington St., Boston, Mass.
Manufacturers
Fireman Cap Specialists for Over 47 Years

Chief Brown in Armed Services

Chief George W. M. Brown of the Newburgh, N. Y., Fire Department was recently commissioned a first lieutenant in the Army Specialist Reserves.

Chief Brown joined the fire department as a volunteer member in 1917, serving in all offices up to captain. Following his return from military service in 1920 he was appointed substitute driver on a paid basis. In 1928 he passed a civil service examination for master mechanic in the department, and served in that capacity until his appointment as Chief in 1934.

Civilian Defense Demonstration Held in Parkersburg

The Fire Department of Parkersburg, W. Va., recently took part in a civilian defense demonstration held in the city park.

The Control Center was moved to the park, a building built and tents set up for the various branches of civilian defense. The Civil Air Patrol came over on the danger signal and did a mock bombing of the building, setting it on fire. The auxiliary fire department came in, did rescue work and then put out the fire.

A review was first held and in less than ten minutes the various divisions were ready for the demonstration, which was witnessed by from 15,000 to 20,000 people. This was the largest demonstration of its kind ever to take place in West Virginia.

The Parkersburg Fire Department, under the leadership of Acting Chief Archie W. Cook, has about 125 trained auxiliary firemen in service.

N. Y. Central Roundhouse Destroyed by Fire

The huge new roundhouse of the New York Central Railroad in Bellefontaine, Ohio, containing a score of locomotives, was destroyed by a fire on September 4, which caused damage estimated at approximately $1,000,000.

Fire also destroyed the machine shop, the blacksmith shop, a water treatment plant and storerooms.

The fire was believed to have started when a workman's blow torch ignited a creosote-soaked wooden beam. Fire departments from Sidney, Kenton, West Mansfield, West Liberty, Zanesfield, Urbana, Belle Center, Lakeview and DeGraff responded to a call from the Bellefontaine Fire Department for help. The fire blazed for more than two hours before it was brought under control.

Flames shot high in the air and heavy smoke poured from the sides of the roundhouse shortly after the fire started.

Firemen had to battle through the dense smoke to lay lines

The fire, after its quick start in the roundhouse, spread through the sprawling railroad yards destroying the other structures.

Coal in locomotives ignited and boilers exploded. Four 1000-gallon tanks of fuel caught fire to add to the blaze.

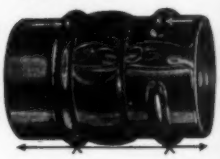
The roundhouse itself was valued at $700,000 and had been completed this spring. The New York Central yards at Bellefontaine are the largest between Buffalo, N. Y., and St. Louis and daily dispatch 120 engines.

DOUBLE SERVICE
with
BI-LATERAL

This installation shows the position of the rubber lining in BI-LATERAL FIRE HOSE when held in a flattened position between calls into service. This is why we can save a city one replacement, because this hose will give double service of any hose constructed under the old method.

Also we can load 25% more on the apparatus bed actually making an $8,000 truck loaded with Bi-Lateral construction, cheaper than a $7,000 one loaded with other construction.

Here's the new DROP-FORGED rocker lug coupling (not cast bronze) with the swivel protecting feature.



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FIRE HOSE CO.
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SEALAND TRAILER PUMPS
These mobile trailers made in 150, 250 and 500 gallon units are powered with gasoline motors, carry 500 ft. of double jacket Fire hose, and may be equipped with 100 gallon booster tanks. Skid mounted units can be furnished. Pumps can be purchased without trailers.
THE SEALAND CORP.
Centrifugal Pumps—Fire Alarm Systems—Modern Fire Apparatus
Post Road & Maple Ave.,
P. O. Southport, Conn.

"ALL AMERICAN CHOICE"
INVINCIBLE NOZZLES
PREPARE — PROTECT
Portable equipment is the watchword of today.
Buy—
INVINCIBLE NOZZLES
and enjoy the benefits derived by experience of the pioneers in the nozzle field.

Fig. 403

F. N. McINTIRE BRASS WORKS
Successors to A. J. Morse & Son, Inc.
BOSTON, MASS.
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FIRE APPARATUS and FIRE DEPARTMENT SUPPLIES
★
FORTIFY FOR FIRE FIGHTING
★
BOYER FIRE APPARATUS CO.
LOGANSPORT INDIANA

Role of Firemen in Defense Important

The importance of the role of firemen in war time and the need of extensive training programs to develop fire fighting forces able to handle situations which would follow enemy attacks on the United States is highly important stated Milton Enzer, Deputy State Director of the Office of War Training, to the Schenectady, N. Y., Fire Department.

Pointing out that more than eighty per cent of the destruction of war is caused by fire, Enzer characterized the firemen as the first line of defense on the home front. He declared the casualties among firemen in London during 1941 exceeded the total number of London firemen prior to the war.

ARTHUR W. CHADWICK.

Refinery Destroyed

A two-alarm fire on September 28 destroyed the plant of the Fiske Brothers Refining Company in East Toledo, Ohio. Loss was estimated at $350,000.

The first alarm was turned in at 6:03 p.m. and was followed by the second at 6:09 p.m. There followed four special calls for additional fire fighting apparatus.

About twenty pieces of equipment were sent to the scene. The fire was brought under control at 9:45 p.m.

Two firemen were severely burned when, in both instances, the rubber coats they were wearing ignited.

The plant and contents were given up as almost a total loss. The refinery, in a sparsely settled section of East Toledo, consisted of a four-story main building and a one-story addition.

The company manufactures lubricants for autos and industrial machinery. Flames were reported to be leaping several hundred feet into the air as the petroleum products burned. A pall of smoke was visible many miles.

Handicapped by intense heat and the dense smoke, and in the face of exploding storage tanks and vats, firemen concentrated their efforts on saving the refinery addition.

They were also hampered in fighting the fire by insufficient water. Six pumpers were stationed at hydrants as far as four city blocks from the burning plant. Water was pumped to the blaze through twenty-five or more lines.

Firemen were directed by Fire Chief Fred T. Schlorf, Patrick Daly, deputy chief, and Alvin Eaton, district chief, who was among the first members of the fire division to arrive on the scene.

Chief Frank Appointed to State Post

William H. Frank, Jr., Chief of Poughkeepsie Fire Department, has been selected to succeed Chief James J. Higgins of the Schenectady Fire Department, as State Fire Administrator.

Higgins recently resigned the state post to return to his post as Chief of the Schenectady Fire Department.

Frank, who disclosed his appointment by the State War Council, assumed his new duties at once at the State Civilian Protection Headquarters in Albany. He was for fifteen years, until 1941, a member of the Board of trustees of the New York State Firemen's Home in Hudson, N. Y.

ARTHUR W. CHADWICK.

MANHATTAN
FIRE HOSE

FLAT FOLDING
—easier to handle
PRESSURE TESTED
—every length tested under *high pressure*
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Also made
RADIO-ACTIVE TREATED
Mildew-Proof • Rot-Proof
Freeze-Proof
Look for the green color

KEEP AHEAD WITH MANHATTAN

THE MANHATTAN RUBBER MFG. DIVISION
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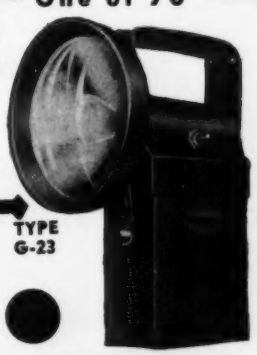
Executive Offices and Factories . . . Passaic, N. J.

One of 70



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- LIGHTEST IN WEIGHT
- MOST LIGHT
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- ALL NIGHT WATCHMEN'S FILAMENT
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- SLIP SPARE BATTERY IN PLACE IN 10 SECONDS

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70 "MASTER-LIGHTS"—
ONE FOR EVERY NEED
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CARPENTER MFG. CO.
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QUAKER QUALITY
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FIRE HOSE is Always Ready
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FA 26

FA-26 GROUNDING DEVICE HARRINGTON FIRE ALARM BOX

In addition to its light weight, long life and ease of installation this member of the HARRINGTON family, the FA-26, is a sixteen round succession non-interfering, automatic grounding device fire alarm box.

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Moline Illinois

I. A. F. C. Conference Snapshots

Curtailment in supply of photographic equipment due to war demands makes it difficult to take all the snapshots one would like to at a convention. It is therefore most welcome assistance to have a top-notch amateur, who has plenty of films, pinch-hit for the staff photographer. Such assistance in the taking of the pictures at the Chicago Conference of the International Association of Fire Chiefs was forthcoming from Hugh Walker, Manager of Motor Fire Apparatus Sales, American-LaFrance-Foamite Corporation, to whom credit is due for many of the Conference snapshots reproduced in the September issue of this journal. Thanks a lot, Hugh!

Toronto Firemen's Jobs Frozen

A notice to male employees of the Toronto, Ont., Fire Department, which was recently received from the Director of National Selective Service, freezes all firemen in their present jobs, thus recognizing the high importance of the fireman's work in the war effort. This notice reads:

"We have been advised by the Dominion Government that by reason of the nature of the work being carried on, this Department has been given a high labor priority rating and has been classified as a 'designated establishment.'

"Under the National Selective Service Civilian Regulations the employer of employees of a 'designated establishment' may not serve notice of separation on any male employee without the permission in writing of a Selective Service officer, and, correspondingly, no male employee of such an establishment may give notice of separation to his employer without the permission in writing of a Selective Service officer."

Tank Car Blast Destroys Ashland Depot

Damage officially estimated at $300,000 was caused by a fire which destroyed the Eagle Rubber Company plant, the Erie Railroad's freight warehouse, and the Lafayette Cafe on September 24 after the derailment of an Erie Railroad oil car train at Ashland, Ohio.

Fire, which broke out after twenty-three oil cars left the rails at the Cottage Street crossing on Ashland's industrial East Side, also destroyed five automobiles and damaged the No. 1 Plant of the A. L. Carber Company, makers of printing supplies.

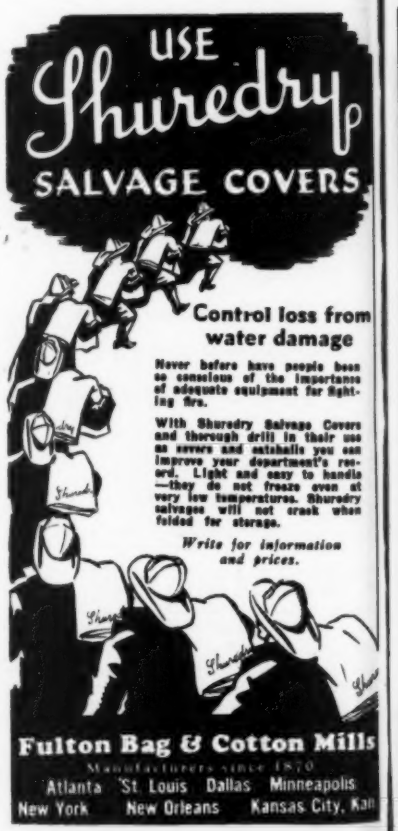
The Ashland College field house was threatened by burning fuel oil, which flowed through a half-mile storm sewer.

Several burning oil cars exploded and rails were melted and railroad ties burned up, blocking traffic on the Erie's main line. Flames also destroyed about twenty-four merchandise-filled freight cars standing on a siding.

The fire started after the oil train struck an automobile at the crossing. Some of the cars smashed into the Erie's passenger station, the roof of which had just been repaired after a similar fire involving a munitions train.

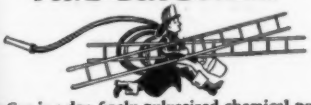
Fire companies from neighboring Mansfield, Norwalk, Wooster, Medina, Lodi, Jeromeville, West Salem and Selby assisted local firemen.

PROTECT EYES and LUNGS Against SMOKE
DUPOR Combination MASK and GAS-TIGHT, Fog-Proof GOGGLES
The fire-fighters' favorite! Water soaked sponge filters and cools breathed air. Water inside goggle keeps fog off lenses.
SAMPLE OUTFIT $4.50
H. S. COVER, 68 Chippewa St., South Bend, Ind.



USE Shuredry SALVAGE COVERS
Control loss from water damage
Never before have people been so conscious of the importance of adequate equipment for fighting fire.
With Shuredry Salvage Covers and thorough drill in their use an owners and catchalls you can improve your department's record. Light and easy to handle—they do not freeze even at very low temperatures. Shuredry salvages will not crack when folded for storage.
Write for information and prices.
Fulton Bag & Cotton Mills
Manufacturers since 1870
Atlanta St. Louis Dallas Minneapolis
New York New Orleans Kansas City, Kan

A ONE-MAN FIRE BRIGADE!



DuGas is a dry, finely pulverized chemical powder, blown by pressure over burning areas. Many fire departments* have equipped their trucks with duGas Fire Extinguishing Apparatus. It extinguishes oil, gas and electrical fires with minimum time and effort.

Available in Models 15 and 30 Hand Extinguishers; Models 150 and 350 Wheeled Extinguishers.
*Names on request.

APPROVED BY UNDERWRITERS' LABORATORIES AND FACTORY MUTUAL LABORATORIES.

Represented in Principal Cities
Write for Details

duGas

DUGAS ENGINEERING CORP.
OWNED AND OPERATED BY
ANSUL CHEMICAL COMPANY, MARINETTE, WISCONSIN

COLT NOZZLES
HAVE STOOD THE TEST OF TIME FOR THIRTY YEARS

Our production on army and navy requirements has been at capacity.

If you are unable to buy COLT SHUT-OFF Nozzles from your regular source of supply — when you want them — please be patient.

COLT NOZZLES are worth waiting for!

EXCELSIOR BRASS MFG. CO.
3452 N. Knox Ave., Chicago, Ill.

Manufacturers of the COLT Nozzle and Fire Department Brass Goods for 30 Years

August Fire Loss

Fire losses in the United States in August were estimated at $29,193,000, an increase of seventeen per cent over the preceding month and $9,513,000, or forty-eight per cent, above losses for August, 1942, it was announced by W. E. Mallalieu, General Manager of the National Board of Fire Underwriters. August was the seventh consecutive month this year to show an increase over the similar period of 1942.

For the first eight months of this year losses are estimated at $244,720,000, or $33,551,000 above the $211,172,000 total for the corresponding period a year ago.

Explosion Kills Twenty-Four at Norfolk Air Base

Twenty-four persons were killed and 250 injured in an explosion on September 17 at the Norfolk Naval Air Station. Rear Admiral Herbert F. Leary, Commandant of the Fifth Naval District, said the explosion originated in ammunition in transit.

The explosion was at 11:01 A. M., in an area near a seaplane rank. In the area were naval aircraft of many types, as well as a dump for planes damaged in wrecks or crash landings. Several planes were destroyed, a hangar levelled and barracks damaged.

Fire engines rushed from Norfolk. The flames were quickly brought under control by equipment of the naval air station.

Jefferson County Volunteers Meet

Restricted by war-time conditions which limited attendance to eight departments, the third annual convention of the Jefferson County Volunteer Firemen's association was held at Alexandria Bay in northern New York state September 10 and 11.

Chief John Jones, Philadelphia, N. Y., was elected president. Other officers are Nelson E. Longtin, Clayton, first vice-president; Fred M. Estes, Alexandria Bay, second vice-president; John Farrell, Dexter, secretary, and George Wolfsley, Lafargeville, treasurer. Highlight was a lecture by Capt. Edward Curran, chief instructor for the New York state civilian protection fire division, who also gave a demonstration of methods of extinguishing incendiary fires.

The conclave closed with a parade, marred by a light rain and steadily falling temperature. Gas rationing and need of protection in their home villages kept most of the departments from bringing their apparatus.

SANFORD D. DEWEY.

Feed Mill Destroyed

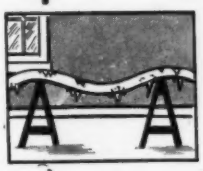
Fire destroyed the four-story plant of the Diamond State Roller Mills, one of Maryland's largest feed mills, injuring three fire fighters and causing damage estimated at $250,000.

Three adjoining buildings were saved, but more than 2,000 bushels of wheat, 1,000 bushels of corn, eight tons of dried milk products, several hundred pounds of flour and several tons of feed in the main building were destroyed.

CONSERVATION FACTS
on how to save your hose

Fact No. 11

CARE IN HANDLING FROZEN HOSE



Hose which has become frozen in ice while in use at a fire should never be pulled clear. Care should be taken to chop away the ice all around the point of freeze. Frozen hose should be handled as little as possible. Never try to repack on truck—pile it in truck with least bends possible to get to fire station as quickly as possible. Let it thaw out, clean it—dry it and then repack or store away.

More than 27 million people in hundreds of towns and cities throughout America are protected by Goodall Fire Hose. Miles of Goodall Hose helped England fight the Nazi air blitz. Hundreds of miles of Goodall Hose are now being made for our Civilian Defense.

We are looking for some live-wire distributors in certain territories. Write to our main office, giving a full description of your set-up.

Write for Catalog Folder

GOODALL
RUBBER COMPANY

6 SOUTH 36TH STREET, PHILADELPHIA
Branch Stocks in Key Cities Across the Country

QUICK

The first FIRST-AID IN THE TREATMENT OF BURNS

The quicker a burn is treated after occurrence, the less probability of blister formation and complications. Remember, the first five minutes are often the most important in the surface treatment of burns. That's why Gebauer's Tannic Spray should be conveniently available at all times. A stable, antiseptic tannic acid solution, ready for instant use. Simply "press the lever" on the dispenseal bottle and direct cooling, soothing spray over burns. Evaporates rapidly, leaving protective tannic film. Available wherever first aid materials are sold. Write for literature.

THE GEBAUER CHEMICAL CO.
Cleveland, 4, Ohio

Gebauer's
TANNIC SPRAY

ELKHART equipment started "going to fires" back in 1902. Every year since then the use of Elkhart equipment has spread, until today hardly an alarm sounds that does not call some Elkhart product into play. Such universal acceptance can mean only one thing—equipment which bears the Elkhart name can be ***depended*** upon for thoroughly sound design and extremely high quality.

•

Nozzles. Pipes. Couplings. Strainers. Nipples. Wrenches. Spanners. Siamese. Gates. Valves. Extinguishers. Axes. Lanterns. Sliding Poles... and all accessories... in a vast range of styles... and limitless combinations. Refer to the Elkhart Catalog for all fire department equipment.

ELKHART BRASS MFG. CO. Inc.

ELKHART, INDIANA

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NEW FWD IN SERVICE AT ANCHORAGE, ALASKA

FWD model KHS, 500 gallon pumper recently purchased by Anchorage, Alaska. Equipment includes 300 gallon booster tank; Foamite generator; 30 ft. 3 section ladder, 14 ft. roof ladder; two 10 ft. lengths 4 inch suction hose; 2½ gallon foam extinguisher; all steel hose body.

FWD 500 GALLON PUMPER PROVIDES VITAL FIRE PROTECTION IN FAR NORTHERN PORT

Anchorage, Alaska — far distant outpost of Uncle Sam and a vital defense area — has recently put in service the FWD 500 gallon pumper shown above.

This city requires more than usually dependable fire protection because its dwellings and other structures are of wood-frame construction; a small unchecked fire could quickly spread and result in a major disaster.

In the "States" or its possessions fire-fighting authorities recognize the added merits of FWD apparatus and its many advantages of four-wheel-drive power and performance in getting to fires—faster—safer—under all conditions of road and weather.

FWD builds a complete line of fire trucks in all types and sizes; write for full information.

THE FOUR WHEEL DRIVE AUTO CO. • Clintonville, Wisconsin

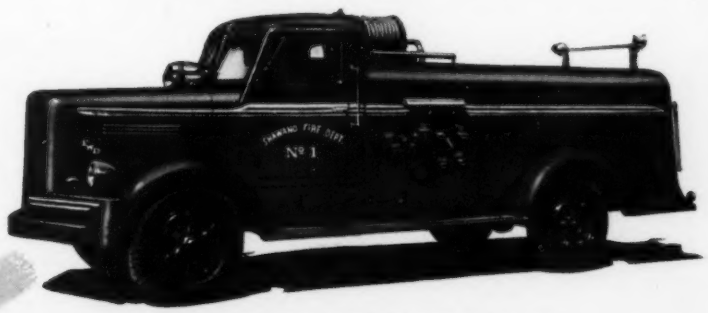
***Canadian Factory:* KITCHENER, ONT.**

FWD TRUCKS

FOUR WHEEL DRIVE

FIRE APPARATUS

Built By the Oldest and Largest Four Wheel Drive Truck Manufacturer



FWD model KHR recently purchased by City of Shawano, Wisconsin. Equipped with 750 gallon per minute, 2-stage centrifugal model CD Waterous pumping apparatus; 100 gallon booster tank, safety glass cab.

YOUR PRESENT FIRE EQUIPMENT IS ADEQUATE FOR ALL-PURPOSE FOGNOZLS

1. Pearl oil. Burning time 1 minute.

2. Advancing under protection of water fog screen, water pressure 100 lbs. p.s.i.

3. Application of fog to 15 foot tank. Note the 1½" line.

4. Diluting the burning vapors.

5. 6 seconds elapses between this picture and No. 3.

6. How inside of tank looks to observer at time of final extinguishment.

In the following illustrations, the fire shown is of pearl oil in a 15 foot diameter tank. Extinguishment is accomplished with a FOGNOZL at a water pressure of 100 lbs.—IN 6 SECONDS.

YOU DO NOT HAVE TO BUY A WHOLE NEW FIRE DEPARTMENT

in order to obtain the advantages of this NEW METHOD OF EXTINGUISHING THE FIRES OF THE FUTURE. FOGNOZLS produce a high velocity water fog for projecting uniform broken water at extreme distances. The same nozzle is so arranged that it can be made to produce a low velocity fog for the extinguishment of materials such as gasoline or dust fires with a minimum disturbance of the burning material.

This is why Fognozls extinguish with minimum water damage and are the most economical to operate. Your present pumps will produce sufficient pressure.

FOGNOZLS—THE METHOD OF TOMORROW

The patented principle employed in our impinging-streams-type of fog nozzle produces an impact of these two streams that breaks up the water at comparatively low pressures—from 40 lbs to 150 lbs per square inch.

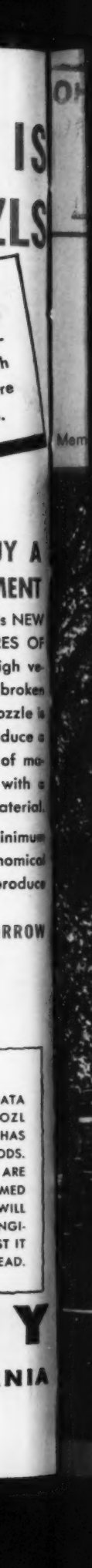
GRIEWOLD ORIGINAL WATER FOGNOZL

- PROTECTION TO PERSONNEL
  TO FIREMEN AND FIRE VICTIMS
- RAPID EXTINGUISHMENT
  A MATTER OF SECONDS
- REDUCED WATER DAMAGE
  A RATIO OF 1 TO 30
- ECONOMY & AVAILABLE SUPPLY
  PLAIN WATER

FOGNOZL FACTS

PREPARE BY ACCUMMULATING DATA ON THIS NEW WATER FOGNOZL FIRE-FIGHTING METHOD THAT HAS REVOLUTIONIZED OLD METHODS. FOGNOZL ACCOMPLISHMENTS ARE DAILY EMPHASIZED BY OUR ARMED FORCES • A BROCHURE OF FOGNOZL FACTS WILL BE SENT, WITHOUT OBLIGATION, TO THOSE ENGINEERS OR EXECUTIVES WHO WILL SO REQUEST IT ON THEIR OFFICIAL OR DEPARTMENT LETTERHEAD. IN FOLDER CONVENIENT FOR YOUR FILE.

FOG NOZZLE COMPANY

1520 EAST SLAUSON AVENUE • LOS ANGELES 11, CALIFORNIA

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